



Manchester University NHS Foundation Trust

Withington Community Hospital

Biodiversity Net Gain Design Stage Report

2486881

MAY 2024

RSK GENERAL NOTES

Project No.: 2486881

Title: Withington Community Hospital - Biodiversity Net Gain Design Stage Report

Client: Manchester University NHS Foundation Trust

Date: May 2024

Status: Rev 07

Author	Iveta Nikandrovaite	Technical and quality reviewer	Will Holden
Signature		Signature	
Date:	8 May 2024	Date:	16 May 2024

Project manager	Iveta Nikandrovaite
Signature	
Date:	8 May 2024

RSK Biocensus (RSK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and RSK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by RSK Biocensus for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of RSK and the party for whom it was prepared.

Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK Biocensus.

Switchboard: +44 (0)330 223 1074 Company contact: Enquiries@biocensus.co.uk

EXECUTIVE SUMMARY

1. This document has been prepared by RSK Biocensus, on behalf of Manchester University NHS Foundation Trust to present the results of a Biodiversity Net Gain (BNG) assessment for the proposed works at Withington Community Hospital, Withington, Didsbury in Greater Manchester (OS Grid Reference: SJ 83736 92016).
2. The BNG assessment uses the results of a UK Habitat Classification (UKHab) survey undertaken at the site on 11 January and 11 May 2023, to determine the habitats present on the site before construction and to provide each habitat with a biodiversity value using the Biodiversity Metric 4.0. The biodiversity value of each habitat present on site is then totalled to provide an overall biodiversity value of the site before construction.
3. Proposed habitat changes after construction are based on the drawings provided by Square Yard. The biodiversity value for each habitat that will be present on the site after construction is totalled and then compared against the total biodiversity value of habitats present before construction to provide an indication of the net change in biodiversity value as a result of the proposed development.
4. The Biodiversity Metric 4.0 measures biodiversity value of habitats in 'biodiversity units' and this BNG assessment follows the methods set out in Biodiversity Metric 4.0 user guide. A habitat is assigned a biodiversity unit score by considering its area (or length), distinctiveness, condition and strategic significance.
5. The full biodiversity assessment calculation can be found in the accompanying Excel document '2486881 Withington CDC - Biodiversity Metric 4.0 Calculation Tool (Rev 07)'.
6. The condition assessments for all habitats present before construction are listed in Appendix A. This includes any deviation from standard guidance, assumptions and justifications for habitat classification and condition.
7. The site was found to comprise a total of four different habitats including mixed scrub, introduced shrub, developed land sealed surface and ecologically valuable line of trees. This results in a baseline of 2.20 area habitat biodiversity units and 1.47 hedgerow biodiversity units. No irreplaceable or very high distinctiveness habitats are present in the site.
8. Post-development plans include enhanced mixed scrub and six newly created habitats, totalling 2.56 area habitat biodiversity units and 2.01 hedgerow biodiversity units.
9. **This BNG assessment thus concludes that the current proposed development will result in a net gain of +0.36 area habitat biodiversity units and +0.53 hedgerow biodiversity units. This equates to a +16.40% net gain in area habitat biodiversity and +36.34% net gain in hedgerow biodiversity. The trading rules in the Biodiversity Metric 4.0 have not been met for area habitats.**
10. A habitat management and monitoring plan will have to be produced as part of the Landscape and Ecology Management Plan (LEMP) to ensure the habitats created and enhanced are managed appropriately to deliver maximum biodiversity value.

CONTENTS

1.0 INTRODUCTION	4
1.1 Purpose of Document	4
1.2 Landscape Context.....	4
1.3 The Proposed Development	4
1.4 Policy context	5
2.0 METHODS	6
2.1 Introduction.....	6
2.2 Biodiversity Assessment Methods	6
2.3 BNG Good Practice Principles for Development.....	8
2.1 Irreplaceable Habitats and Very High Distinctiveness Habitats.....	9
2.2 Assumptions and Limitations	9
3.0 RESULTS	10
3.1 Overview.....	10
3.2 Pre-development.....	10
3.3 Post-development	12
3.4 Change in Biodiversity Value	13
4.0 EVALUATION AND CONCLUSIONS	15
4.1 Biodiversity Net Gain.....	15
4.2 Management and monitoring	15
REFERENCES	17
FIGURES	18
APPENDIX A - PRE-DEVELOPMENT HABITAT CONDITION SURVEY RESULTS	19
APPENDIX B - POST-DEVELOPMENT CONDITION ASSESSMENTS	22

TABLES

Table 1 - Biodiversity Metric 4.0 multipliers and their explanations.	7
Table 2 - Defra metric good practice principles and justification.	8
Table 3 - Baseline biodiversity unit values for each habitat recorded within the application site before construction.	10
Table 4 - Extent of baseline area habitats being lost, retained and enhanced within the site along with their associated biodiversity unit values.	11
Table 5 - Baseline biodiversity unit values for each hedgerow recorded within the site before construction.	11
Table 6 - Extent of baseline hedgerows being lost, retained and enhanced within the site along with their associated biodiversity unit values.	11
Table 7 - Post-development area habitat biodiversity unit values within the site based on the current design.	12
Table 8 - Post-development hedgerow biodiversity unit values within the site based on the current design.	13
Table 9 - Change in biodiversity units as a result of the Proposed Development.....	13

1.0 INTRODUCTION

1.1 Purpose of Document

- 1.1.1 This document has been prepared by RSK Biocensus, on behalf of Manchester University NHS Foundation Trust ('the Applicant') to present the results of a Biodiversity Net Gain (BNG) assessment for the proposed construction of a new endoscopy and cardiorespiratory facility ('the Proposed Development') at the Withington Community Hospital, Withington, Didsbury in Greater Manchester (OS Grid Reference: SJ 83736 92016; Figure 1) ('the site'). The results of this BNG assessment will be used to support a full planning application to Manchester City Council.
- 1.1.2 The document provides:
- a detailed methodology, including assumptions, for undertaking the BNG assessment;
 - the baseline biodiversity value of habitats within the site prior to construction;
 - the likely biodiversity value of habitats within the site post-development based on the current design information; and
 - the relative biodiversity change of habitats within the site after construction compared with before construction, determining whether the proposed development has achieved a 10% net gain in biodiversity.

1.2 Landscape Context

- 1.2.1 The proposed site boundary is c.0.74 ha, and includes sections of mixed scrub, scattered trees, introduced shrubs and sealed surfaces (hardstanding).
- 1.2.2 The site is bordered to the north by the current hospital building and car park, to which the proposed new building will connect. The site is bordered by major roads and residential dwellings to the east and the south. Buccleuch Lodge, an intermediate care home surrounded by amenity grassland is located to the west of the site. The wider landscape is urban with the residential of areas Withington, West Didsbury, East Didsbury and Wythenshawe. There are pockets of greenspace present, including parks, playing fields and vegetated railway corridors.

1.3 The Proposed Development

- 1.3.1 The development proposals include erection of a two-storey building comprising a Community Diagnostics Centre, with associated external landscaping, patient and delivery drop off area and six no. accessible parking spaces at Withington Community Hospital.

1.4 Policy context

- 1.4.1 The primary aims of the BNG process are for developments to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes. BNG does not replace other existing legislation and policy for nature conservation. The below legislation and policy provide the context behind the need to achieve BNG.

The Environment Act

- 1.4.2 The Environment Act 2021 mandates a statutory requirement for developments to deliver a minimum 10% BNG which became mandatory on 12th February 2024.

Town and Country Planning Act

- 1.4.3 Schedule 7A of the Town and Country Planning Act 1990 (as amended) mandates a statutory requirement for developments to deliver a minimum 10% BNG which became mandatory on 12th February 2024.

National Planning Policy Framework

- 1.4.4 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied by Local Authorities within their Local Development Frameworks (LDF). The revised National Planning Policy Framework was published on 5 September 2023 (Department for Levelling Up, Housing and Communities, 2023).
- 1.4.5 Chapter 15 of the NPPF 'Conserving and enhancing the natural environment' sets out the requirements to consider BNG in planning decisions. Paragraph 170 states: *"Planning policies and decisions should contribute to and enhance the natural and local environment by: ... d) minimising impacts and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;"*

Local Plans

- 1.4.6 The following policies in the Manchester's Local Development Framework Core Strategy Development Plan Document (Adopted 11 July 2012) are relevant to the application site:
- Policy EN 9 – Green infrastructure; and
 - Policy EN15 – Biodiversity and Geological Conservation.

2.0 METHODS

2.1 Introduction

- 2.1.1 This BNG assessment has been carried out as a desk-based exercise and has been undertaken by a competent person in accordance with best practice¹.
- 2.1.2 The results of UK Habitat Classification (UKHab) survey carried out within the site by RSK Biocensus in January and May 2023 (RSK Biocensus, 2023) has been used to determine the biodiversity value of habitats within the site before construction (Figure 2).
- 2.1.3 The plans provided by Square Yard on behalf of Manchester University NHS Foundation Trust for the proposed development have been used to determine the biodiversity value of habitats within the site after construction (Figure 3).
- 2.1.4 The primary documents consulted as part of this assessment include:
 - 2485005 - Withington Community Hospital - Preliminary Ecological Appraisal Report Rev00 (RSK Biocensus, 2023)
 - Square Yard (March 2024) 2301-SQU-XX-00-DR-L-001 - External works site wide general arrangement plan.

2.2 Biodiversity Assessment Methods

- 2.2.1 This assessment was undertaken in line with guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2021), the British Standard for Biodiversity Net Gain (BS 8683) and industry best practice (CIEEM, 2016).
- 2.2.2 To calculate the baseline values for the site, and assess any changes arising from the proposed development, this study uses methods set out the Biodiversity Metric 4.0 (hereafter 'the Metric') user guide (Defra, 2024). The Metric measures biodiversity value for habitats in 'biodiversity units' (BUs)².
- 2.2.3 The Metric is designed to quantify losses and gains of biodiversity as a result of proposed development or land management to inform and improve planning, design, land management and decision-making. The Metric uses habitats and as a proxy to describe biodiversity.
- 2.2.4 The Metric can calculate biodiversity value of:
 - existing habitats;

¹ A competent person has the knowledge and skills to perform specified tasks to complete and review biodiversity metric calculations. This is obtained through training, qualifications, experience, or a combination of them. Competency is aligned with the British Standard 'Process for designing and implementing biodiversity net gain (BS 8683:202)'.

² 'Biodiversity units' are used to describe relative biodiversity value. There are three types of biodiversity units: area habitat units, hedgerow units and watercourse units. Each of these are calculated in separate 'modules' of the biodiversity metric.

- habitat enhancement; and
 - habitat creation.
- 2.2.5 The Metric can calculate different types of BUs. There are three types of biodiversity units, which are calculated in three separate 'modules' of the Metric. These are:
- area habitat units (e.g. woodland, grasslands, wetlands);
 - hedgerow units (e.g. hedgerows and lines of trees); and
 - watercourse units (e.g. culverts, canals, wet ditches, rivers and streams).
- 2.2.6 Consequently, a site can have three biodiversity unit values, which are assessed using the Metric, but which cannot be summed together or traded between.
- 2.2.7 The area or length of a habitat is multiplied by several factors in the Metric (called multipliers) that indicate its quality and value (distinctiveness, condition and strategic location), and this provides its BU value.
- 2.2.8 In addition, for those habitats that are to be created or enhanced, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).
- 2.2.9 A brief description of the different multipliers contained within the Metric are detailed below in Table 1.

Table 1 - Biodiversity Metric 4.0 multipliers and their explanations.

Biodiversity Metric multiplier	Explanation
Habitat distinctiveness	A measure based on the type of habitat and its distinguishing features. This includes: <ul style="list-style-type: none"> • consideration of species richness and rarity; • the extent to which the habitat is protected by designations; and • the degree to which a habitat supports species rarely found in other habitats.
Habitat condition	A measure of the habitat against its ecological optimum state. Condition is a way of measuring variation in the quality of patches of the same habitat type.
Strategic significance	Describes the local significance of the habitat based on its location and the habitat type.
Difficulty	A measure which represents the uncertainty in the effectiveness of management techniques used to enhance or create habitat.
Time to target condition	The average time taken between starting creation or enhancement of habitats and that habitat reaching its target condition or distinctiveness.
Spatial risk	Spatial risk represents the relationship between the location of biodiversity loss (on-site) and where the off-site habitat is being delivered. This is applied to off-site interventions only.
Riparian zone encroachment	A measure of any feature or intervention within the riparian zone that reduces the quantity, quality or ecological function of the riparian habitat.
Watercourse encroachment	A measure of any feature that adversely affects the natural function of the watercourse, or results in localised changes in habitat, species and migratory pathways.

2.3 BNG Good Practice Principles for Development

- 2.3.1 The Metric has been designed as a tool to help inform plans and decisions; however, when undertaking BNG assessments this must be undertaken in accordance with set principles outlined in the user guide (Defra, 2024). These are outlined in Table 2 along with a full justification regarding how each principle has been considered.

Table 2 - Defra metric good practice principles and justification.

Principle	Justification of how principle has been applied
Principle 1: The metric assessment should be completed by a competent person.	Danielle Langton has four years' experience in Ecological Consultancy and is a qualifying member of CIEEM. Danielle has three years' experience in performing BNG assessments and has undertaken relevant internal training.
Principle 2: The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.	Existing levels of protection afforded to protected species and habitats are not changed by use of this or any other metric. Statutory obligations will still need to be satisfied. The Preliminary Ecological Appraisal report (RSK Biocensus, 2024) details the presence of protected and/or notable species, sites and habitats, and assesses potential impacts and outlines suitable mitigation measures to address these.
Principle 3: The biodiversity metric should be used in accordance with established good practice guidance and professional codes.	The mitigation hierarchy has been applied to the design of the Proposed Development. The area of permanent habitat loss has been kept to a minimum without comprising the development. The habitats that will be created and enhanced within the Order Limits will be appropriate, and of the correct distinctiveness, to compensate for the habitats that will be impacted.
Principle 4: The biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.	RSK Biocensus acknowledges that the Defra Metric has been kept deliberately simple to be of practical use. The calculations have been undertaken by specialists and input is underpinned by robust baseline evidence and ecological knowledge and experience.
Principle 5: Biodiversity units are a proxy for biodiversity and should be treated as relative values.	RSK Biocensus acknowledges that the Defra Metric is tool to be used as a means of assessing changes in biodiversity value (losses or gains) brought about by the proposed development and is a habitat based approach to determining a proxy biodiversity value within the Order Limits and the output does not represent absolute values.
Principle 6: This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.	Impacts to protected and notable species and habitats have been fully assessed as part of the PEA (RSK Biocensus, 2024) undertaken by to inform the proposed development.
Principle 7: Habitat interventions need to be realistic and deliverable within a relevant project timeframe.	The habitats chosen for creation have been done so based on the existing on-site conditions and local context, not purely to achieve the greatest possible BNG result using the Defra Metric. The post-development habitats will be created, managed and maintained in accordance with the LEMP which will ensure the habitats achieve their target condition.

Principle	Justification of how principle has been applied
Principle 8: Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.	The created and enhanced habitats to achieve the BNG requirements are all being delivered within the Order Limits and are therefore local to the impacts. The landscape plans has been designed to be in keeping with the local character of the area whilst also being in accordance with the Lawton principles of 'bigger, better, more and joined up'.
Principle 9: The biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to: <ul style="list-style-type: none"> maintain habitat extent - supporting more, bigger, better and more joined up ecological networks ensure that proposed or retained habitat parcels are of sufficient size for ecological function 	Where possible, in the first instance the same habitat type of better condition will be created. If conditions do not allow for the same habitat type to be created, consideration will be given to the creation of different habitats of the same broad type or higher and of better condition.

2.1 Irreplaceable Habitats and Very High Distinctiveness Habitats

- 2.1.1 Irreplaceable habitats (as provided for in secondary legislation for BNG³) do not have a BNG requirement as they are too valuable to be compensated for. As such, any losses to irreplaceable habitats cannot be calculated by the biodiversity metric tool and they are removed from the baseline.
- 2.1.2 There are no irreplaceable habitats within the site and therefore the proposals will not result in any impacts to irreplaceable habitats.

2.2 Assumptions and Limitations

- 2.2.1 It is assumed that there will be no delay in habitat creation.
- 2.2.2 This assessment is based on the current design and site location, and if any amendments are made to the design in the future a further BNG assessment may be required.

³ <https://defra.landuse.blog.gov.uk/2023/10/05/irreplaceable-habitats-and-bng-what-you-need-to-know/>

3.0 RESULTS

3.1 Overview

- 3.1.1 To calculate the overall biodiversity accounting position for the proposed development, the BU values for the existing habitats (pre-development) and the proposed newly created habitats (post-development) need to be calculated.
- 3.1.2 The full Biodiversity Metric 4.0 spreadsheet is presented separately in 2486881-Withington CD - Biodiversity Metric 4.0 Calculation Tool (Rev 07). Habitat condition sheets are presented in Appendix A (pre-development) and Appendix B (post-development).

3.2 Pre-development

- 3.2.1 Most of the site is mixed scrub interspersed with young, scattered trees. Lines of trees demarcate the north-western, southern and south-eastern site boundary. The trees along north-western site boundary are semi-mature and mature trees. There are small areas which have been planted with introduced / ornamental planted shrubs.
- 3.2.2 There is one building located immediately north of the site boundary. It is anticipated that the southern aspect of the building will join to the new building. Areas of hard standing are currently used as a car park or footpaths
- 3.2.3 The UKHab Plan (Figure 2) has been used to determine all of the habitats present within the site before construction.

Area habitats

- 3.2.4 The total area of each area habitat recorded within the site before construction, the condition of each habitat (i.e. its current status) and a summary of the BUs this represents, are all presented in Table 3 below.

Table 3 - Baseline biodiversity unit values for each habitat recorded within the application site before construction.

Habitat type (UKHab classification)	Baseline habitat condition	Area (ha)	Baseline biodiversity unit value (BU)
Mixed scrub (h3h)	Poor	0.54	2.16
Introduced shrub (847)	Condition Assessment N/A	0.02	0.04
Developed land; sealed surface (u1b)	Condition Assessment N/A	0.18	0.00
Total		0.74	2.20

- 3.2.5 The total area of each existing area habitat that will be lost, retained or enhanced within the site and a summary of the BUs this represents, are all presented in Table 4 below.

Table 4 - Extent of baseline area habitats being lost, retained and enhanced within the site along with their associated biodiversity unit values.

Habitat type	Baseline habitat condition	Area lost (ha)	Area retained (ha)	Area enhanced (ha)	Biodiversity units (BU) lost	Biodiversity units (BU) retained	Biodiversity units (BU) enhanced
Mixed scrub (h3h)	Poor	0.39	0	0.15	0.39	0	0.60
Introduced shrub (847)	N/A	0.02	0	0	0.04	0	0
Developed land; sealed surface (u1b)	N/A	0.18	0	0	0	0	0
TOTAL		0.59	0	0.15	1.60	0	0.60

Hedgerows

- 3.2.6 The total length of each hedgerow recorded within the site before construction, the condition of each habitat (i.e. its current status) and a summary of the BUs this represents, are all presented in Table 5 below.

Table 5 - Baseline biodiversity unit values for each hedgerow recorded within the site before construction.

Habitat type (UKHab classification)	Baseline habitat condition	Length (km)	Baseline biodiversity unit value (BU)
Ecologically valuable line of trees (34)	Moderate	0.16	1.47
Total		0.16	1.47

- 3.2.7 The total length of each existing hedgerow that will be lost, retained or enhanced within the site and a summary of the BUs this represents, are all presented in Table 6 below. Under the current proposals none of the habitats are going to be enhanced or lost.

Table 6 - Extent of baseline hedgerows being lost, retained and enhanced within the site along with their associated biodiversity unit values.

Habitat type	Baseline habitat condition	length lost (km)	Length retained (km)	Biodiversity (BU) units lost	Biodiversity units (BU) retained
Ecologically valuable line of trees (34)	Moderate	0	0.16	0	1.47
TOTAL		0	0.16	0	1.47

3.3 Post-development

- 3.3.1 The landscape plan provided by Square Yard (Figure 3) have been used to identify all the habitats that will be created, enhanced or retained within the site after construction. There are no proposed biodiversity offsets off-site for the proposed development.

Area habitats

- 3.3.2 A breakdown of areas for each proposed area habitat created post-development within the site and a summary of the BUs this represents are presented in Table 7.

Table 7 - Post-development area habitat biodiversity unit values within the site based on the current design.

Habitat type	Forecast habitat condition	Forecast area (ha)	Forecast biodiversity unit value (BU)
Mixed scrub (h3h)	Moderate	0.15	1.00
Introduced shrub (847)	Condition Assessment N/A	0.07	0.14
Scattered tree (32)	Poor	0.114	0.32
Developed land; sealed surface (u1b)	N/A - Other	0.28	0.00
TOTAL		0.71	1.46

- 3.3.3 The post-development biodiversity accounting calculations for area habitats have been undertaken using the following assumptions based on the landscape plan provided (Figure 3):
- The retained 0.15 ha mixed scrub will be retained and enhanced by via the removal of invasive non-native species, this will increase the condition assessment from poor to moderate. The 0.15 ha of temporarily lost mixed scrub will be re-created in moderate condition.
 - 0.07 ha of introduced shrub will be created.
 - Three medium and one small trees will be planted within the site. Based on the on-site conditions the trees have been entered into the Defra Metric as Urban trees in moderate condition. While the trees classified a medium will not be planted at medium size, they will be allowed to achieve that size class during the 30 year management period and beyond.
 - Majority of the mixed scrub will be lost to sealed surface; developed land.
- 3.3.4 The planting schedules and seed mixes for created habitats will be detailed within a Landscape Ecological Management Plan (LEMP).
- 3.3.5 Condition assessment criteria for newly created habitats are provided in Appendix B.

Hedgerows

3.3.6 A breakdown of lengths for each proposed hedgerow created post-development within the site and a summary of the BUs this represents are presented in Table 8.

Table 8 - Post-development hedgerow biodiversity unit values within the site based on the current design.

Habitat type		Forecast habitat condition	Forecast length (km)	Forecast biodiversity unit value (BU)
Retained	Ecologically valuable line of trees	Moderate	0.16	1.47
Total retained			0.16	1.47
Created	Non-native and ornamental hedgerow	Poor	0.034	0.03
	Native hedgerow	Moderate	0.15	0.50
Total created			0.18	0.53
TOTAL			0.34	2

3.3.7 The post-development biodiversity accounting calculations for hedgerows have been undertaken using the following assumptions based on the landscape plan provided (Figure 3):

- The existing line of trees along the boundary will be retained and will not be impacted as part of the proposals.
- 0.036 km of non-native ornamental hedgerow will be planted along the new building. Based on the on-site conditions this hedgerow has been entered into the Defra Metric as Non-native and ornamental hedgerow in poor condition.
- 0.15 km of native hedgerow will be planted along the new building. Based on the on-site conditions this hedgerow has been entered into the Defra Metric as Native hedgerow in moderate condition.

3.3.8 The planting schedules and seed mixes for created hedgerow will be detailed within a Landscape Ecological Management Plan (LEMP).

3.3.9 Condition assessment criteria for newly created hedgerow is provided in Appendix B.

3.4 Change in Biodiversity Value

3.4.1 The post-development proposals as per the landscape mitigation plan (Figure 3) is anticipated to result in a net increase of area habitat and hedgerow BUs. This is summarised in Table 9.

Table 9 - Change in biodiversity units as a result of the Proposed Development

Post-development area habitat biodiversity units (BU)		Baseline area habitat area biodiversity units (BU)		Change in area habitat biodiversity units (BU)	Percentage change (%)
2.56	-	2.20	=	+0.36	+16.40
Post-development hedgerow biodiversity units (BU)		Baseline hedgerow biodiversity units (BU)		Change in hedgerow biodiversity units (BU)	Percentage change (%)
2.01	-	1.47	=	+0.53	+36.24
Post-development watercourse biodiversity units (BU)		Baseline watercourse biodiversity units (BU)		Change in watercourse biodiversity units (BU)	Percentage change (%)
0	-	0	=	0	0

- 3.4.2 The change in biodiversity value for the proposed development, as set out in Table 9, indicates that post-development there would be an increase of **0.36** area habitat BUs which equates to a **16.40%** net gain in area habitats. The trading rules associated with the Metric have not been met for area habitats as a result of the proposed development.
- 3.4.3 Loss of medium distinctiveness habitats, mixed scrub (-0.05) results in a loss of, results in a loss of 0.05 Medium Distinctiveness units. Loss of this habitats can be offset by creation of the same broad habitat or a high distinctiveness habitat.
- 3.4.4 There would also be an increase of **0.53** hedgerow BUs which equates to an **36.24%** gain in hedgerows. The trading rules associated with the Metric have been met for hedgerows as a result of the Proposed Development.

4.0 EVALUATION AND CONCLUSIONS

4.1 Biodiversity Net Gain

- 4.1.1 The proposed development will lead to the **gain of 0.36 (+16.40%) area BUs and 0.53 (+36.34%) hedgerow BUs**. The development will create 2.56 area BUs and 2.01 hedgerow BUs. The proposed development will also result in enhancing mixed scrub and retaining ecologically valuable line of trees.
- 4.1.2 The trading rules associated with the Metric have not been satisfied. Loss of mixed scrub (-0.05) can be offset by creation of the same broad habitat or a high distinctiveness habitat.
- 4.1.3 It should be noted that the current proposed development is a significant improvement on the initial proposed design which resulted in a loss of 1.17 biodiversity area units, which was a total net loss of 48.79% biodiversity area units, see Square Yard (2023) Withington Landscape Sketch (reference 2301-SQU-XX-00-DR-L-001, P1). The initial proposed design did achieve a 10.81% net gain in terrestrial linear units, but the significant net loss of biodiversity area units is considerably worse for biodiversity.
- 4.1.4 Due the type of habitats on the site and proposed size of the development, it is considered that the proposed landscape design is appropriate to the size and scale of the development. However, it should be noted that although the current proposals achieve a net gain, the current assessment does not meet BNG habitat trading rules. Therefore, this assessment should be discussed and agreed with the local planning authority.
- 4.1.5 Additionally, the net gain calculation does not consider additional measures which could be included within the proposed design to improve the site for biodiversity, such as the inclusion of integrated bat and bird boxes, insect hotels, creation of log piles, hedgehog houses. Finally, the proposed species within the landscape design are anticipated to be native and of local provenance, or to have a proven benefit to biodiversity (e.g., are berry / nut bearing species to promote birds / nectar rich species to encourage invertebrates).
- 4.1.6 Therefore, the significant improvement to the net gain assessment demonstrates that the development has made a considerable effort to minimise the biodiversity net loss on the site.

4.2 Management and monitoring

- 4.2.1 This BNG assessment does not include detailed habitat management proposals for areas of retained habitat or habitat to be created as these should be to be outlined in the Landscape Ecological Management Plan (LEMP).
- 4.2.2 A LEMP is a 30-year management plan that should detail the adaptive management and monitoring plan which would guide all habitat management and monitoring at the application site. The LEMP should ensure that created habitats deliver maximum

biodiversity value and should also include necessary interventions should habitats fall short of their desired future condition.

- 4.2.3 The LEMP should include detailed drawings, management proposals and timetables, as well as a plan to define who is responsible for activities.

REFERENCES

- British Standard Institute (2021) *BS 8683: Process for designing and implementing biodiversity net gain – Specification* Available: <https://www.bsigroup.com/en-GB/our-services/events/webinars/2021/bs-8683-process-for-designing-and-implementing-biodiversity-net-gain/> [Accessed 29.04.2024].
- Butcher, B. et al (2023) *UK Habitat Classification v2.0* Available: <https://ukhab.org/> [Accessed 10.05.2024].
- CIEEM/CIRIA/IEMA (2016) *Biodiversity Net Gain: Good practice principles for development* Available: [Biodiversity-Net-Gain-Principles.pdf \(cieem.net\)](https://www.cieem.net/Biodiversity-Net-Gain-Principles.pdf) [Accessed 10.05.2024].
- Defra (2023) *The Biodiversity Metric 4.0* Available: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides> [Accessed 10.05.2024].
- Manchester City Council (2012) *Manchester's Local Development Framework- Core Strategy Development Plan Document*. Available at: https://www.manchester.gov.uk/downloads/download/5672/core_strategy [Accessed 10.05.2024]
- RSK Biocensus (2023), 2485005 – Withington Community Hospital Preliminary Ecological Appraisal Report Rev02
- Square Yard (2023) Withington Landscape Sketch produced by Square Yard 004

FIGURES

Figure 1 - Site location plan

Figure 2 - UKHab habitat survey

Figure 3 - Proposed landscape plan (Square yard March 2024)



Legend:

Site Boundary

00	17/01/2023	2485005	RG	SP	TW
Rev	Date	Description	Drn	Chk	App

Withington Community Hospital

RSK
biocensus
EXPERTS IN ECOLOGY

TITLE: Figure 1:

Site Location Plan

0

30

60

90

Metres

SCALE: 1:2,500 @ A3

N

E

S

W

REV 00



Legend:

- Site Boundary
- UKHab Habitats
 - Mixed Scrub
 - Developed Land; Sealed Surface
 - Other Developed Land; Introduced Shrub
- Line of Trees
- Target Note



00	24/01/2023	2485005	RG	SP	ES
Rev	Date	Description	Drn	Chk	App

Withington Community Hospital



TITLE: Figure 2:
Habitat Plan

051015

Metres

SCALE: 1:500 @ A3

W

N

E

S

REV 00



- KEY:
- EXISTING TREE RETAINED
 - PROPOSED CONCRETE BLOCK PAVING
TOBERMORE ARTRO OR SIMILAR TBC
 - PROPOSED CONCRETE FLAG PAVING
TOBERMORE TEXTURED FLAG OR SIMILAR TBC
 - PROPOSED BOUND GRAVEL TO SEATING AREAS
COLOUR TBC
 - PROPOSED ASPHALT
TO ENGINEERS SPECIFICATION
 - EXISTING ASPHALT RETAINED
TO BE MADE GOOD AS REQUIRED
 - PROPOSED BENCH TYPE 1
MARSHALLS GEO BENCH OR SIMILAR APPROVED
 - PROPOSED BENCH TYPE 2
BESPOKE PLANTERS WITH INCORPORATED BENCH
BAILEY INSIRA PLANTER SYSTEM OR SIMILAR APPROVED
 - PROPOSED AMENITY SHRUB PLANTING
SEE PLANTING PLAN FOR DETAILED PROPOSALS
 - EXISTING SCRUB HABITAT TO BE RETAINED
1628 M2
 - PROPOSED SCRUB TO BE REINSTATED AFTER
CONSTRUCTION
1365 M2
 - PROPOSED FIXED BOLLARD
1100MM HIGH STAINLESS STEEL
SUPPLIED BY MARSHALLS OR SIMILAR APPROVED
 - PROPOSED SPECIMEN TREE/MULTISTEM SHRUB
SEE PLANTING PLANS FOR DETAILED PROPOSALS
 - PROPOSED MIXED NATIVE HEDGE
PLANTED IN A DOUBLE STAGGERED ROW
 - PROPOSED ORNAMENTAL HEDGE

P1	DRAFT ISSUE FOR COMMENT/COORDINATION	AV	AV	27/04/2023
P2	DRAFT ISSUE FOR COMMENT/COORDINATION	MG	AV	10/05/2023
P3	DRAFT ISSUE FOR COMMENT/COORDINATION	MG	AV	07/06/2023
P4	DRAFT ISSUE FOR COMMENT/COORDINATION	MG	AV	03/07/2023
P5	DRAFT ISSUE - PARKING AND ACCESS UPDATED	MG	AV	18/07/2023
P6	DRAFT ISSUE - BOLLARDS ADDED	MG	AV	07/08/2023



- GENERAL NOTES:
- DIMENSIONS GOVERN
 - ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE ON THE DRAWINGS
 - ALL DIMENSIONS SHALL BE VERIFIED ON SITE PRIOR TO ANY CONSTRUCTION
 - YD2 SHALL BE NOTIFIED OF ANY DISCREPANCIES

DRAWING NOTES:				
P7	DRAFT ISSUE - AREAS FOR CONSTRUCTION WORKS ADDED	MG	AV	19/10/2023
P8	DRAFT ISSUE - WASTE COMPOUND AREA UPDATED	MG	AV	24/10/2023
P9	DRAFT ISSUE - GROUND FLOOR UPDATED	MG	MG	03/11/2023
P10	DRAFT ISSUE - GROUND FLOOR UPDATED	MG	AV	22/03/2024
P11	DRAFT ISSUE - GROUND FLOOR UPDATED	MG	AV	26/03/2024
REV	DESCRIPTION	DRAWN	CHECKED	DATE

PROJECT TITLE

**WITHINGTON HOSPITAL
BURTON ROAD
WITHINGTON**

DRAWING TITLE

**EXTERNAL WORKS
SITE WIDE GENERAL ARRANGEMENT**

SCALE

**@ A1
1:250**

DATE

MAR 2024

PROJECT NUMBER

YD2_23_01

DRAWING No.

2301-SQU-XX-00-DR-L-001

REVISION

P11

Squareyard

Landscape Architecture - Urban Design - Masterplanning

Email - studio@yd2.co.uk
Web - www.yd2.co.uk
Tel - 07514 281 452

Address:
Suite 10 - Hardman Business Centre,
New Hall Hey Road,
Rossendale

APPENDIX A – PRE-DEVELOPMENT HABITAT CONDITION SURVEY RESULTS

This appendix presents the condition assessments of the baseline habitats against the condition sheets in the Biodiversity Metric 4.0 Technical Annex 1 document published by Defra (2023). Any deviations from the published guidance are explained and justified.

Healthland and shrub - Mixed scrub

UKHAB classification	h3h - Mixed scrub		
Distinctiveness	Medium	Area	0.54 ha
Habitat Type Description			
Most of the site is mixed scrub interspersed with young, scattered trees. Using the UKHabs classification system, the species present and the age class of self-seeded trees, results in a classification of mixed scrub rather than woodland. Some trees are above 5m tall, but all trees are very young and leggy and have all been self-seeded. The area has no dominant species, but patches are dominated by Bramble (<i>Rubus fruticosus</i> agg.). Other species present include Ash saplings, Beech (<i>Fagus sylvatica</i>) saplings, Butterfly-bush (<i>Buddleja davidii</i>), Cotoneaster (<i>Cotoneaster</i> sp.), Dog-rose (<i>Rosa canina</i>), Dogwood (<i>Cornus sanguinea</i>), Gorse (<i>Ulex europaeus</i>), Hawthorn (<i>Crataegus</i> spp.), Holly (<i>Ilex aquifolium</i>), Horse-chestnut (<i>Aesculus hippocastanum</i>) saplings, Silver Birch (<i>Betula pendula</i>) and Sycamore (<i>Acer pseudoplatanus</i>).			
Condition Assessment Criteria			
<ol style="list-style-type: none"> The scrub is a good representation of the habitat type it has been identified as, based on its UKHAB description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species¹, with no single species comprising more than 75% of the cover (except hazel <i>Corylus avellana</i>, common juniper <i>Juniperus communis</i>, sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i>, which can be up to 100% cover). Seedlings, saplings, young shrubs and mature (or ancient or veteran²) shrubs are all present. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover. The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s). There are clearings, glades or rides present within the scrub, providing sheltered edges. 			
Condition			
Good	Passes 5 of 5 criteria		
Moderate	Passes 3 or 4 of 5 criteria		
Poor	Passes 0, 1 or 2 of 5 criteria		
Condition Result			Poor
Justification			
<ol style="list-style-type: none"> Habitat is representative of mixed scrub UKHAB description - Pass There is a mix of ages present, including seedlings, shrubs and mature shrubs and occasional trees - Pass Cotoneaster is present - Fail There are no areas of scattered scrub or grassland, it is an area of scrub with self-seeded trees - Fail The area of scrub is relatively small and does not contain clearings or glades - Fail 			

Urban - Introduced shrub

UKHAB classification	u1b6, 1160 - Developed land; introduced shrub.		
Distinctiveness	Low	Area	0.02 ha
Habitat Description			
There are small areas which have been planted with introduced / ornamental planted shrubs. Species present include: Bamboo (<i>Bambusa</i> sp.), Barberry (<i>Berberis</i> sp.), Birch (Ornamental variety) (<i>Betula</i> sp.), Boxed-leaved			

Honeysuckle (<i>Lonicera pileate</i>), Bracken (<i>Pteridium sp.</i>), Cherry Laurel (<i>Prunus laurocerasus</i>), Cherry (<i>Prunus sp.</i>), Cotoneaster, Hebe (<i>Hebe sp.</i>), Holly (<i>Ilex aquifolium</i>), Horse-chestnut (<i>Aesculus hippocastanum</i>), Snowberry (<i>Symphoricarpos albus</i>) and Willow (<i>Salix sp.</i>)	
Condition Assessment Criteria	
N/A - condition assessment N/A, default multiplier of 1.	
Condition	
Good	N/A
Moderate	N/A
Poor	N/A
Condition Result	N/A
Justification	
N/A	

Urban - Developed land, sealed surface

UKHAB classification		u1b - Developed land; sealed surface, u1b5 - Buildings	
Distinctiveness	V. low	Area	0.18 ha
Habitat Description			
Mixture of buildings, pathways and carpark			
Condition Assessment Criteria			
N/A - fixed at 'poor', default multiplier of 1.			
Condition			
Good	N/A		
Moderate	N/A		
Poor	N/A		
Condition Result			N/A
Justification			
N/A			

Woodland and forest - Line of trees

UKHAB classification	w1g6 - Line of trees		
Distinctiveness	Medium	Length	0.16 km
Habitat Type Description			
Lines of trees demarcate the north-western, southern and south-eastern site boundary. The trees along north-western site boundary are semi-mature and mature, primarily Sycamore (<i>Acer pseudoplatanus</i>) with the occasional Beech (<i>Fagus sylvatica</i>). The trees along southern site boundary, the central trees are young to semi-mature and the trees in the north-west section are semi-mature to mature, species include Large-leaved Lime (<i>Tilia platyphyllos</i>), Pedunculate Oak (<i>Quercus robur</i>) and Sycamore. Finally, the trees on the south-east site boundary are semimature, species present include Ash (<i>Fraxinus excelsior</i>), Horse-chestnut (<i>Aesculus hippocastanum</i>) and Sycamore.			
Condition Assessment Criteria			
<ol style="list-style-type: none"> More than 70% of trees are native species. Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark. There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice. At least 95% of the trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity. 			
Condition			
Good	Passes 5 of 5 criteria		
Moderate	Passes 3 or 4 of 5 criteria		
Poor	Passes 0, 1 or 2 of 5 criteria		
Condition Result	Moderate		

Justification

1. More than 70% are native - **Pass**
2. The canopy is continuous - **Pass**
3. Several trees are mature - **Pass**
4. There is a road immediately south of the trees - **Fail**
5. The trees are in a healthy condition - **Pass**

APPENDIX B - POST-DEVELOPMENT CONDITION ASSESSMENTS

This appendix presents the assessment of the condition of the post-development habitats against the condition sheets in the Biodiversity Metric 4.0 technical supplement (Defra, 2023).

Heathland and shrub - Mixed scrub

UKHAB classification	Heathland and shrub - mixed scrub (h3h)		
Distinctiveness	Medium (4)	Area	0.15 ha
Habitat Description			
It is anticipated that the retained areas of scrub will be enhanced via the removal Cotoneaster (Cotoneaster sp.) and management to remove Butterfly-bush (Buddleja davidii) and reduce the frequency of nettle (Urtica dioica) within the scrub. The area should also be managed to encourage wildlife and increase species diversity. This should be detailed within a landscape and ecological management plan for the site.			
It is anticipated that an area of scrub will be temporarily lost as a result of the development. It is expected that the scrub will be re-planted with native species and will be managed along with the retained scrub in order to achieve moderate condition.			
Condition Assessment Criteria			
A. The parcel represents a good example of it's habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). At least 80% of scrub is native, There are at least three woody species, no single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover)			
B. Seedlings, saplings, young shrubs and mature (or ancient or veteran2) shrubs are all present.			
C. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover			
D. Cover of Bracken is less than 20% and cover of scrub (including Bramble) is less than 5%.			
E. The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).			
F. There are clearings, glades or rides present within the scrub, providing sheltered edges.			
Condition Assessment Results		Condition Assessment Score	
Passes 5 or 5 criteria		Good (3)	
Passes 3 or 4 of 5 criteria		Moderate (2)	
Passes 0, 1 or 2 of 5 criteria		Poor (1)	

Urban - Introduced shrub

UKHAB classification	u1b6, 847 - Developed land; introduced shrub.		
Distinctiveness	Very low (0)	Area / Length	0.07 ha
Habitat Description			
There are several small areas proposed within the landscape plan which will be planted with introduced / ornamental planted shrubs.			
Condition Assessment Criteria			
N/A			
Condition Assessment Results		Condition Assessment Score	
N/A		N/A	

Individual Trees - Urban tree

UKHAB classification	w1 - Urban trees		
Distinctiveness	Medium (4)	Area / Length	0.11 ha
Habitat Description			
Four individual trees will be planted within the areas of introduced shrub on site. Three medium sized trees and one small tree.			
Condition Assessment Criteria			
A. Tree is a native species (or at least 70% within the block are native species).			
B. The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).			
C. The tree is mature (or more than 50% within the block are mature).			
D. There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.			
E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark			
F. More than 20% of the tree canopy area is oversailing vegetation beneath			
Condition Assessment Results		Condition Assessment Score	
Passes 5 or 6 criteria		Good (3)	
Passes 3 - 4 criteria		Moderate (2)	
Passes 2 or fewer criteria;		Poor (1)	

Urban

UKHAB classification	Developed land; sealed surface		
Distinctiveness	Very low (0)	Area	0.38 ha
Habitat Description			
The developed land will comprise hospital building, concrete paving and asphalt.			
Condition Assessment Criteria			
N/A			
Condition Assessment Results		Condition Assessment Score	
N/A		N/A	

Hedgerow - Non-native and ornamental hedgerow

UKHAB classification	h2b Other hedgerow (non-native and ornamental hedgerow)		
Distinctiveness	Ver low (0)	Area / Length	0.034 km
Habitat Description			
One hedgerow will be created adjacent to the area of retained scrub on site.			
Condition Assessment Criteria			
N/A - condition assessment N/A, default multiplier of 1.			
Condition Assessment Results		Condition Assessment Score	
N/A		N/A	

Hedgerow - Native hedgerow

UKHAB classification	h2a Other hedgerow (non-native and ornamental hedgerow)		
Distinctiveness	Low (2)	Area / Length	0.15 km
Habitat Description			
One native hedgerow will be created adjacent to the area of retained scrub on site.			

Condition Assessment Criteria	
<p>A1. Height - >1.5 m average along length. A2. Width - >1.5 m average along length. B1. Gap - hedge base - Gap between ground and base of canopy <0.5 m for >90% of length. B2. Gap - hedge canopy continuity - Gaps make up <10% of total length; and No canopy gaps >5 m. C1. Undisturbed ground and perennial vegetation - ">1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least). C2. Nutrient-enriched perennial vegetation - Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground. D1. Invasive and neophyte species - >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species. D2. Current damage - >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.</p>	
Condition Assessment Results	Condition Assessment Score
No more than 2 failures in total; AND No more than 1 failure in any functional group."	Good
No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	Moderate
Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	Poor