



Elite Ecology

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**Muscle Manor,
Fallowfield**



Biodiversity Net Gain Report

October 2024



01782 308418

www.eliteecology.co.uk

admin@eliteecology.co.uk



Part of Harmil Environmental Ltd
Company Reg Number: 11310919
Company VAT Number: 320559225

The New Barn, Suites 2/3, Shellow Lane,
Gawsworth, Cheshire, CW12 2FQ



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Prepared For	Mr. Grant Smith (Proprietor)		
Author	Mr. Peter Royall		
Approved (1 st Checker)	Mr. Marek Fraczek		
Approved (2 nd Checker)	Mr. Richard Millington		
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31/10/2024	V1	Final Draft	Proofread

0. Executive Summary

This report has been prepared at the request of Mr. Grant Smith (proprietor). It relates to the proposed re-development works at Muscle Manor, Wilmslow Road, Fallowfield, Manchester, M20 4WA (OS Grid Reference: SJ 85371 93445). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

The proposals are to construct a marquee containing new gym equipment. The plans are retrospective due to the marquee already having been completed.

The ecological assessment undertaken by Elite Ecology (September 2024) revealed multiple habitats on site. The baseline habitat map for the site is located within

Appendix C. The following habitats were recorded on site:

- **g4** – Modified Grassland
- **u1b5** – Building
- **u1b6** – Other Developed Land
- **u1c** – Artificial Unvegetated; Unsealed Surface
- **u1f** – Sparsely Vegetated Urban Land

Habitat Mitigation Score

Biodiversity Unit Type	Baseline Units		Post-Development Units No Enhancements			Post-Development Units With Recommendations			
	On-Site	Off-Site	On-Site	Off-Site	% Net Gain	On-site	Off-site	Statutory biodiversity credits (government-provided)	% Net Gain
Area Habitat	0.64	N/A	0.62	N/A	-3.13	0.62	N/A	N/A	-3.13
Linear Habitat – Hedgerows or Lines of Trees	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Linear Habitat – Rivers and Streams	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Habitat Creation and Management

Due to lack of available area, no additional habitats have been proposed.

Species Specific Enhancements

A number of species-specific enhancements can be found in **Section 6.2**.

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1. Introduction

1.1 Report Rationale

This report has been prepared at the request of Mr. Grant Smith (Proprietor). It relates to the proposed re-development works at Muscle Manor, Wilmslow Road, Fallowfield, Manchester, M20 4WA (OS Grid Reference: SJ 85371 93445). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

1.2 Site Description

The site is located in an urban location within Fallowfield, Manchester.

The site measures approximately 4.6ha and contains a number of habitats. These include building, hard standing ground, modified grassland, and sparsely vegetated ground. The habitats on site could have the potential to support a number of protected species. The photographs of the site are found within **Appendix E**.

Within the wider landscape further habitats are present. These come in the form of amenity grassland, hard standing ground, hedgerows, improved grassland, residential dwellings (and their associated gardens/yards), and scattered trees. This shows that the habitats in the area surrounding the site have the potential to support protected species.

Figure 1: An aerial map showing the site Muscle Manor, Fallowfield (as shown by the yellow star) in relation to some of the local landscape.

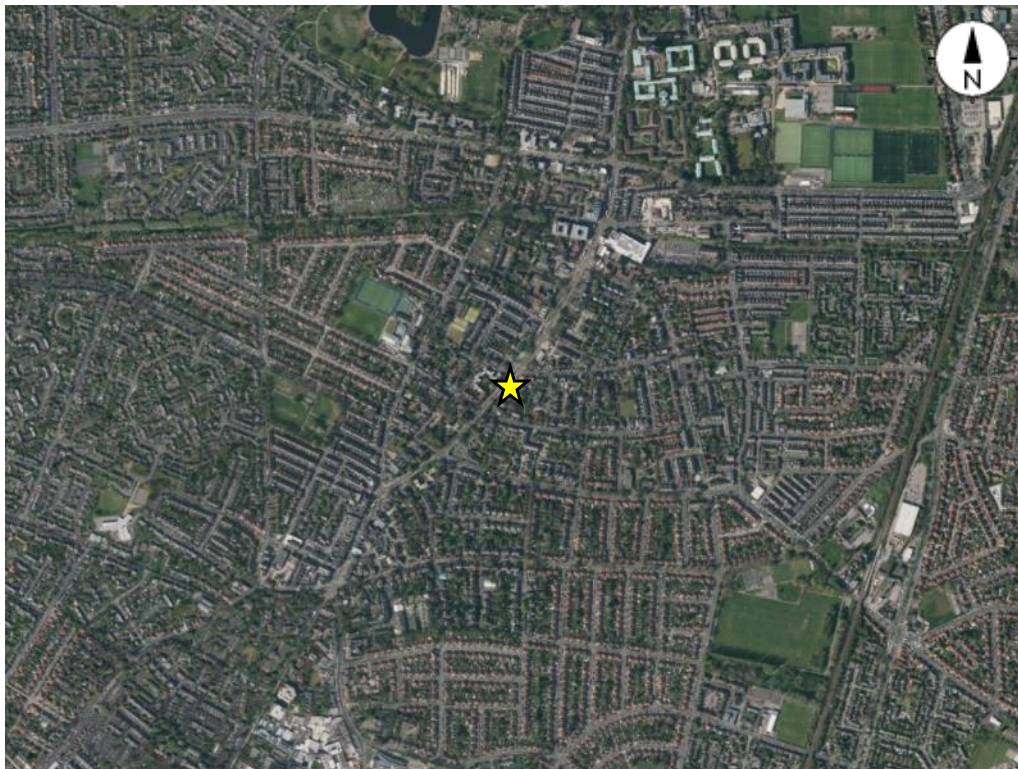
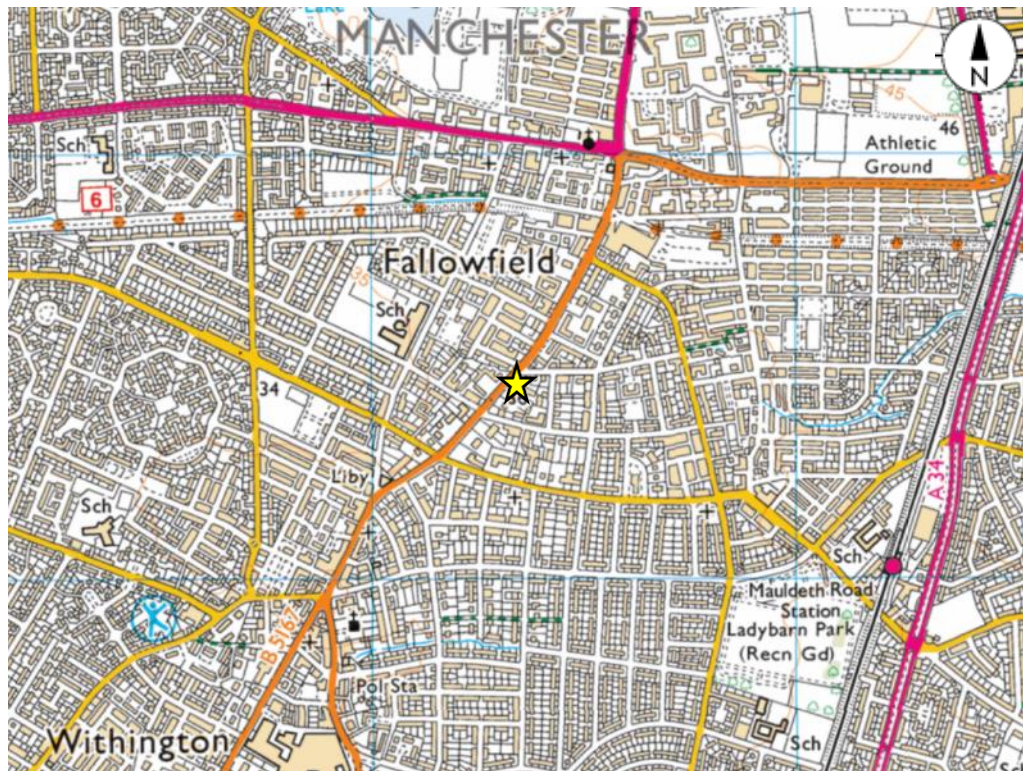


Figure 2: An OS map obtained from Bing showing the location of Muscle Manor, Fallowfield (as shown by the yellow star).



1.3 Proposals

The proposals are to construct a marquee containing new gym equipment. The plans are retrospective due to the marquee already having been completed. This will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site.

1.4 Scope of Report

This report aims to:

- Establish the total number of baseline and lost habitat and hedgerow units at the site of the proposed scheme.
- Establish the total number habitat and hedgerow units that are to be created, retained and/or enhanced under landscape and ecological mitigation proposals at the proposed works site.
- Determine whether the proposed scheme will result in a net loss, no net loss, or a net gain for biodiversity.
- Make further recommendations to gain the required 10% minimum net gain for biodiversity.

1.5 **Biodiversity Net Gain Relevant Policies**

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. These are:

- UK Biodiversity Action Plan (UKBAP).
- The Natural Environment and Rural Communities (NERC) Act 2006.
- The UK Post-2010 Biodiversity Framework (2011-2020).
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
- The National Planning Policy Framework (NPPF) 2021.
- Environmental Act 2021.
- Local policy.

A full explanation of these policies can be found within **Appendix F**.

2. Methodology

Personnel

Field surveys have been undertaken by licensed ecologist/s, members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and members of Elite Ecology staff. The field survey was carried out on the 21st of August 2024 by **Mr. Matthew Cotterill**: PGDip, Ecologist and **Mr. Lewis Simpson**: BSc (Hons), Assistant Ecologist.

The Biodiversity Net Gain Assessment has been carried out by **Mr. Peter Royall**: BSc, Assistant Ecologist, in line with CIEEM Guidelines on Good practice principles for development (2016), CIEEM A Practical Guide (2019) and BS 8683:2021 - Process for designing and implementing biodiversity net gain. This biodiversity net gain has been reviewed by **Mr. Richard Millington**: BSc (Hons), ACIEEM, CERPIT, MRSB, MArborA, Principal Ecologist or **Mr. Connor Wild**: MSc, Senior Ecologist.

Survey of Baseline Habitats and Condition

Habitat typing and condition assessments are undertaken during a Preliminary Ecological Appraisals (PEA) or similar studies. The baseline also takes into account historic records for the site and local area via a desktop study (satellite imagery, previous ecological reports), as well as additional surveys to assess the presence/absence of species in certain situations.

River assessments are carried out through a MoRPH5 Pro survey and River type survey. At least one MoRPH5 is undertaken per reach on site that will be directly or indirectly impacted with a further MoRPH5 undertaken upstream to record a more “natural setting” if required. This data is then processed via Cartographer to give the condition of the rivers on site.

Conditions for baseline habitats are conditioned using the relevant assessment sheets provided by statutory condition assessment.

Calculations of Baseline Habitats

Using Geographic Information Software (GIS), baseline habitats are measured in hectares (ha) using vector layer polygons. These measurements are then input into the DEFRA Statutory Biodiversity Calculation tool. Habitat condition and connectivity are then input into the calculator. The area of habitat retained is then entered into the calculation to give a final sum of baseline units and lost unit.

Each habitat has a base score of 1, this is then multiplied by the size of the habitat (ha). The habitat is then multiplied by its distinctiveness:

- Very low – 0
- Low – 2
- Medium – 4
- High – 6

The next multiplier is based on the condition of the habitat:

- N/A-other/agricultural – 0
- Poor – 1
- Fairly poor – 1.5
- Moderate – 2
- Fairly good – 2.5
- Good – 3

Calculations of Post-development Habitats

The calculation is informed by planning design, landscape plans, and proposed ecological mitigation. Plans are georeferenced into GIS and are similarly measured in hectares (ha) using vector layer polygons. These measurements are then converted into input into the DEFRA Statutory Biodiversity Calculation tool. A target condition will be assigned to each new habitat following the same scores as above. The calculator will generate a proposed time to hit this target condition and difficulty score.

3. Baseline Conditions

3.1 Habitats

The preliminary ecological appraisal survey revealed multiple habitats on site. The baseline habitat condition assessments can be found in **Appendix B**. The baseline habitat map for the site is located within **Appendix C**. The following habitats were recorded on site:

- **g4** – Modified Grassland
- **u1b5** – Building
- **u1b6** – Other Developed Land
- **u1c** – Artificial Unvegetated; Unsealed Surface
- **u1f** – Sparsely Vegetated Urban Land

On Site

Habitats		Condition	Justification
UKHAB	Metric		
g4 – Modified Grassland	Modified Grassland	Poor	Does not pass the following condition: "There are six-to-eight vascular plant species per m ² present, including at least two forbs." Note - this criterion is essential for achieving Moderate or Good condition.
u1b5 – Building u1b6 – Other Developed Land	Developed land; sealed surface	N/A - Other	Condition assessment unavailable.
u1c – Artificial Unvegetated, Unsealed Surface	Artificial unvegetated, unsealed surface	N/A – Other	Condition assessment unavailable.
u1f – Sparsely Vegetated Urban Land	Ruderal/ephemeral	Poor	Does not pass any of the conditions.
32 – Scattered Trees	Urban Tree	Moderate	Passes the following conditions: 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). The tree is mature (or more than 50% within the block are mature). Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.
32 – Scattered Trees	Urban Tree	Poor	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). 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.

3.2 Strategic Significance

The following table shows the strategic significance of the site. This is compared against freely available sources such as the Multi Agency Geographic Information for the Countryside (MAGIC) and local policy maps

Habitats	Strategic Significance	Justification
Modified Grassland	Not identified within local strategy	Area has not been identified within the local plan.
Developed Land; Sealed Surface	Not identified within local strategy	Area has not been identified within the local plan.
Artificial Unvegetated, Unsealed Surface	Not identified within local strategy	Area has not been identified within the local plan.
Ruderal/Ephemeral	Not identified within local strategy	Area has not been identified within the local plan.
Urban Tree	Not identified within local strategy	Area has not been identified within the local plan.

3.3 Species

No Preliminary Ecological Appraisal was conducted on site. As such, the site was not assessed for its potential to support protected species.

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4. Baseline Calculation and Proposal Impact**4.1 Existing Habitats**

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Modified Grassland	0.01	Low	2	Poor	1	0.02	0.00	0.00	0.01	0.02
Ruderal/ Ephemeral	0.01	Low	2	Poor	1	0.02	0.01	0.00	0.00	0.00
Developed Land; Sealed Surface	0.29	V. Low	0	N/A - Other	0	0.00	0.29	0.00	0.00	0.00
Artificial Unvegetated, Unsealed Surface	0.01	V. Low	0	N/A - Other	0	0.00	0.01	0.00	0.00	0.00
Urban Tree	0.07	Medium	4	Moderate	2	0.56	0.07	0.00	0.00	0.00
Urban Tree	0.01	Medium	4	Poor	1	0.04	0.01	0.00	0.00	0.00
TOTALS:	0.32*					0.64	0.39	0.00	0.01	0.02
Area excluding Urban Trees*										

Based on the above information, the on-site habitat biodiversity value is calculated at **0.64** habitat units, with **0.02** units lost during the development. Therefore, **0.62** units will remain.

4.2 Existing Linear Habitats

No existing linear habitats are present on site.

4.3 Proposed Habitats

The tables below summarise the habitats of the new development, along with its target condition.

Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time Till Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed Land; Sealed Surface	0.01	V. Low	0	N/A - Other	0	0	1.000	Low	1	0.00
TOTALS	0.01									0.00

The above habitat, valued at **0.00** habitat units, combined with the remaining habitats valued at **0.62** units, will result in a habitat biodiversity value score of **0.62** habitat units.

Hedgerows

No linear habitats have been proposed.

4.4 Total Net Unit Change

The net unit change for the habitats on site is calculated at **-0.02** which correlates to a loss of **-3.13%** in habitat biodiversity.

4.5 Trading Rules

The area habitat trading rules for this project have not been satisfied. The project fails on the requirements to meet the trading rules for low distinctiveness habitats.

The table below breaks down the factors for passing and failing trading rules:

Area Habitat Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required (=)	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	No	No habitats of this distinctiveness were identified on site.
Low	Same distinctiveness or better habitat required ($\geq$)	No	0.02 units are required to meet the trading rules.

The linear habitat trading rules for this project have been satisfied. The project passes on the requirements to meet the trading rules for habitats of every distinctiveness.

The table below breaks down the factors for passing and failing trading rules:

Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required (=)	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	Yes	No habitats of this distinctiveness were identified on site.
Low	Same distinctiveness or better habitat required ($\geq$)	Yes	No habitats of this distinctiveness were identified on site.
Very Low	Same distinctiveness or better habitat required ($\geq$)	Yes	No habitats of this distinctiveness were identified on site.

5. Recommendations

5.1 Habitats

The initial score, with enhancements, resulted in a **-0.02** loss in habitat units (**-3.13%**) and a **+0.00** gain in hedgerow units (**+0.00%**). As it stands the project does not meet DEFRA 10% minimum increase.

5.2 Off-setting

Due to limited scope to provide effective offsetting on site, no further recommendations are made.

To reach the required 10% net gain in biodiversity, a total of **0.70** units will be needed on site post development. As it stands, there is a unit deficit of **0.08** units.

A breakdown of the units required can be found below:

Unit Type	Target	Baseline Units	Total Units Required on Site Post Development	Units Deficit
Area Habitats	10.00%	0.64	0.70	0.08
Hedgerow	10.00%	0.00	N/A	N/A
Rivers	10.00%	0.00	N/A	N/A

As the project has not met the DEFRA 10% increase in net gain for biodiversity, the client will be required to either find additional land for offsetting, make changes to the layout or purchase or purchase Statutory biodiversity credits through Natural England. Alternatively, the client may wish to consult a private third-party habitat unit broker for prices for biodiversity units sold in the off-site private market.

6. Habitat Creation and Management

6.1 Soil Preparation

SOILS: Subgrade/subsoil to be prepared in accordance with BS 8601:2013 and BS 4428:1989 and scarified or ripped to 300mm depth (excluding root protection areas of retained trees refer to Tree Protection Plan) prior to spreading topsoil to alleviate compaction and promote drainage. Imported and as saved topsoil to be in accordance with BS 3882: 2015 'Multipurpose Grade' with minimum soil organic matter contents 1% greater than the minimal value (or as approved). Imported topsoil (and 'as saved' if requested) is to be laboratory tested to BS 3882:2015 and ameliorated as required to meet the required characteristics as detailed within Table 1 of BS 3882:2015 specification.

Wildflower and private lawn areas to be unimproved topsoil or low fertility topsoil to BS 3882:2015. Grass areas to be a minimum depth of 150mm, shrub beds 450mm depth, and forestry/transplants 300mm depth. Any weed/grass growth to be sprayed out with appropriate herbicide at least ten days prior to cultivation. All areas to be cultivated to a minimum depth of 150mm removing weeds and rubbish/stones greater than 20mm in size. Incorporate proprietary non peat compost to BSI PAS 100 to 50mm depth evenly worked into soil during cultivation.

6.2 Species Specific Enhancements

The following is a list of enhancements that are to be implemented in site. Additional features may be required following the completion of outstanding surveys. This document will be updated if required.

6.2.1 Bats

The development is to incorporate two Eco Bat Boxes or similar. Boxes can be purchased by emailing admin@eliteecology.co.uk. Including this box will provide further roosting opportunities. It should be over 4m high and avoid any artificial lighting, whilst being sighted facing east, south-east, south, south-west, and/or west. Artificial lighting **must avoid** linear features. If it is necessary to include artificial lighting in areas overlooking both hedgerows and trees, then this must include sensors to be triggered by larger bodies only.

6.2.2 Birds

The development site should be enhanced for birds by installing a variety of bird boxes on site. The development must incorporate a minimum of the following:

- One Apex Bird Box.
- One Apex Robin Box.

The boxes should be positioned two-to-four metres high. They must be placed between northern and eastern elevations, thus avoiding strong sunlight and the wettest winds. The entrance of the box must be kept clear of obstructions, such as branches and vegetation. All bird enhancements must be situated in a way that prevents access to predators, such as cats.

7. Good Practice Principles for Development

7.1 Principle 1: Mitigation Hierarchy

Habitats have been found to be of limited potential to support protected species. Enhancements recommended will improve the site for local fauna.

7.2 Principle 2: Irreplaceable Habitats

No irreplaceable habitats occur on site. Habitats on site are relatively common and of poor quality.

7.3 Principle 3: Inclusivity

Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.

7.4 Principle 4: Risks

No additional habitats have been recommended.

7.5 Principle 5: Measurable Net Gain Contribution

The net unit change for the habitats on site is calculated at **-0.02**, which correlates to a loss of **3.13%** in habitat biodiversity.

This means a measurable net gain contribution has not been achieved.

7.6 Principle 6: Best Outcomes for Biodiversity

If recommendations are implemented, this will exceed what is currently on site, offering species-specific enhancements.

7.7 Principle 7: Be Additional

This principle has not been met as a measurable net-gain has not been achieved. Habitats have been found to be of limited potential to support protected species and the enhancements recommended will improve the site for local fauna.

7.8 Principle 8: Net Gain Legacy

No additional habitats have been recommended. Therefore, no monitoring has been recommended.

7.9 Principle 9: Sustainability

No sustainability schemes have been proposed.

7.10 Principle 10: Transparency

Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.

8. References

- Bickmore, C. J. (2002). Hedgerow Survey Handbook. London: DEFRA
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9. Appendices

Appendix A: Site Plans

Appendix B: Habitat Condition Assessment Sheets

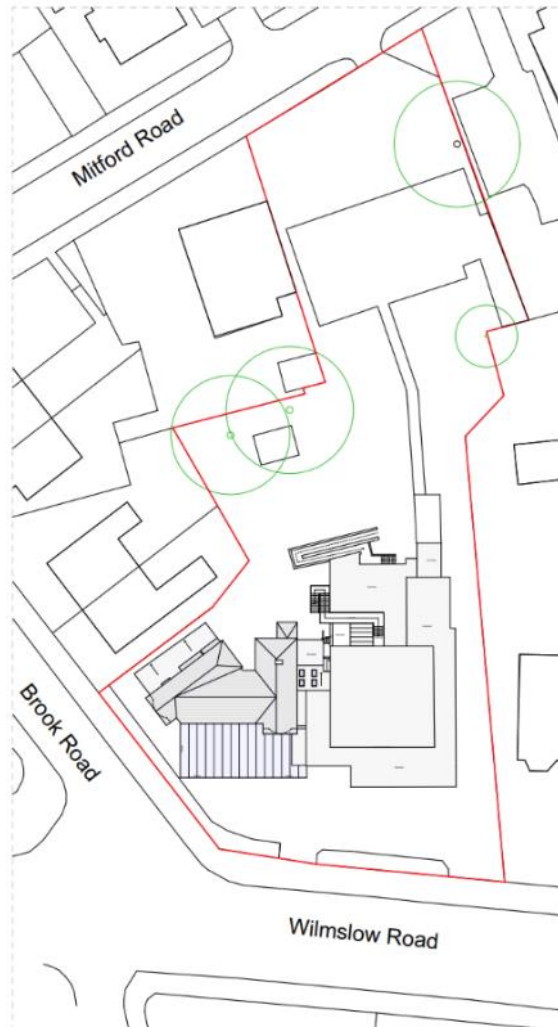
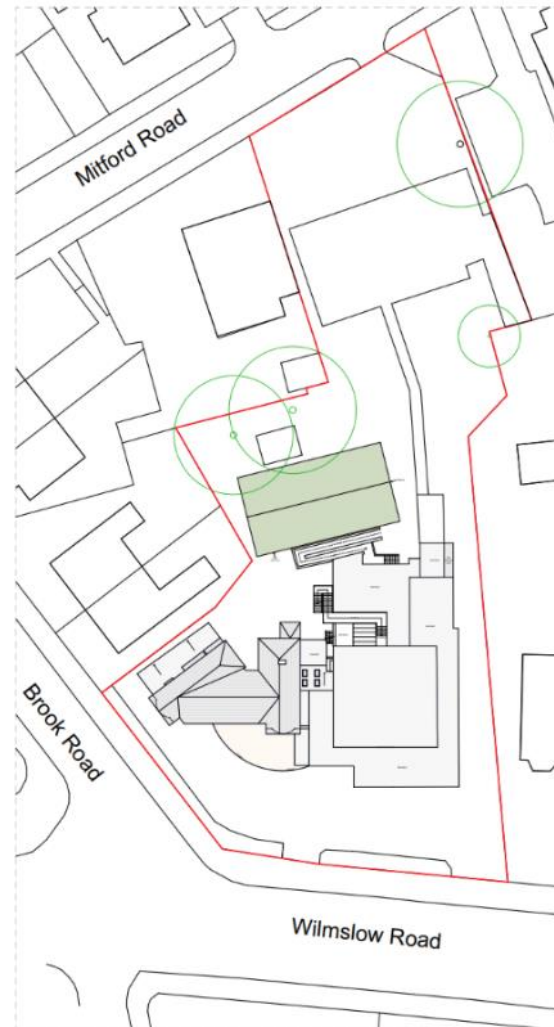
Appendix C: Baseline Habitat Map

Appendix D: New Habitat Maps

Appendix E: Site Photographs

Appendix F: Biodiversity Net Gain Relevant Policies

Appendix G: Bat and Artificial Light

Appendix A: Site Plans**EXISTING GA SITE PLAN****PROPOSED GA SITE PLAN****notes**

This drawing is subject to a detailed building and site survey, therefore no guarantee of its accuracy can be given. This drawing has been drafted in accordance with the client's design requirements. All areas are approximate and are subject to a detailed building and site survey and further design development. All dimensions should be checked prior to commencement of construction on site. Measurements should not be taken off the drawing.

All dimensions shown are in millimetres (mm).



PLD Planning Issue

23.07.24



revisions:
NADA Architects Ltd
160 Kingsway
Burnage
Manchester
M19 2ND
Mob: 07914 736627
E: ahmed@nadaarchitects.com
W: www.nadaarchitects.com

PLANNING

D - design PL - planning PT - pre-tender
T - tender P - preliminary
C - construction R - record

MUSCLE MANOR

**CHANGE OF USE
393 WILMSLOW ROAD,
MANCHESTER, M20 4WA**

**EXISTING & PROPOSED GA
SITE PLAN**

scale 1:500 @ A3 date 23.07.24 drawn MI checked AC

job no. (category) sheet no. revision

24-1271 (01)001 PL0

Drawing measurements shall not be obtained by scaling. Verify all dims prior to construction. Immediately report any discrepancies on this drawing to Architect. This drawing shall be read in conjunction with associated specifications and related consultant's documents.

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Appendix B: Habitat Condition Assessment Sheets

Habitat: Grassland Low			
Condition Assessment Criteria			Criterion Passed
A	There are 6-8 vascular plant species per m2 present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition. Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2, please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.		No
B	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 vertebrates and invertebrates to live and breed.		N/A
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.		N/A
D	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.		N/A
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens) ² .		N/A
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.		N/A
G	There is an absence of invasive non-native plant species ³ (as listed on Schedule 9 of WCA ⁴).		N/A
Condition	Poor	Score	0/7

Note: As the habitat fails Criteria A, it is automatically classed as being in a poor condition.

Footnote 1 – Creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*, greater plantain *Plantago major*, white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris*.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels, accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

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Habitat: Individual Trees (Moderate)			
Condition Assessment Criteria			Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).		No
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).		Yes
C	The tree is mature (or more than 50% within the block are mature) ¹ .		Yes
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.		No
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		Yes
F	More than 20% of the tree canopy area is oversailing vegetation beneath.		No
Condition	Moderate	Score	3/6

Habitat: Individual Trees (Poor)			
Condition Assessment Criteria			Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).		No
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).		Yes
C	The tree is mature (or more than 50% within the block are mature) ¹ .		No
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.		Yes
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		No
F	More than 20% of the tree canopy area is oversailing vegetation beneath.		No
Condition	Poor	Score	2/6

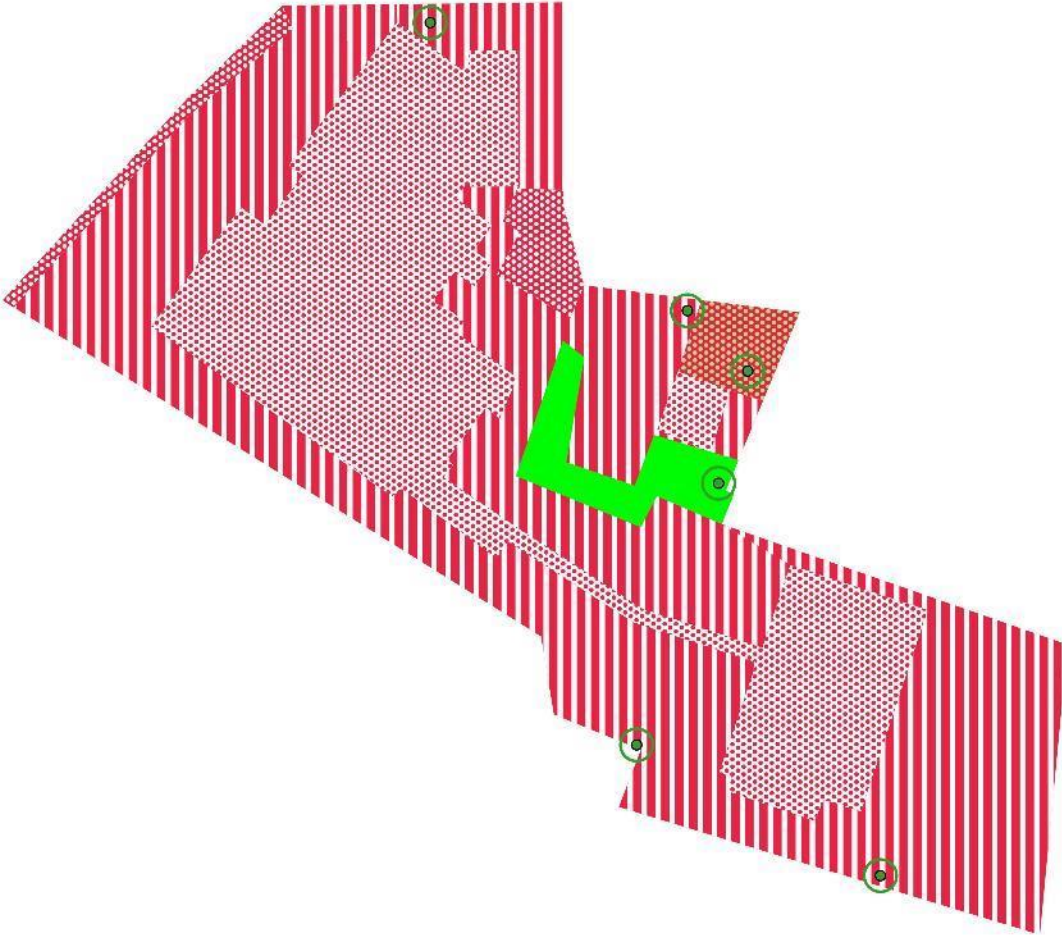
Footnote 1 - See gov.uk standing advice on ancient and veteran trees. Available from: Keepers of time: ancient and native woodland and trees policy in England (publishing.service.gov.uk)

and:

Ancient woodland, ancient trees and veteran trees: advice for making planning decisions - GOV.UK (www.gov.uk)

Footnote 2 - Enhancement of this habitat type is only possible by improving the habitat so that it meets all Criteria B, D and F. It is not possible or appropriate to enhance individual tree/s through meeting just one or two of those Criteria, nor by meeting Criteria A, C or E.

Appendix C: Baseline Habitat Map





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The New Barn, Suite 3.0, Shallow Lane
Glenworth, Cheshire, CH12 3PQ

Site title
Muscle Manor, Fallowfield

Client
Mr. Grant Smith (proprietor)

Map title
Baseline Habitat Map

Date
29/10/2024

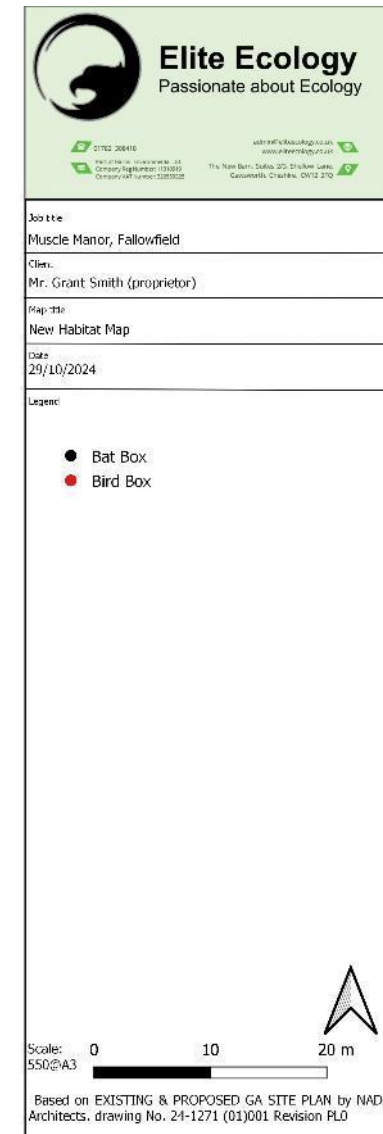
Legend

-  Individual Trees [6]
-  g1 - Modified Grassland [0]
-  u1b - Developed Land; Sealed Surface [3]
-  u1b5 - Buildings [2]
-  u1c - Artificial Unvegetated, Unsealed Surface [2]
-  u1f - Sparsely Vegetated Urban Land [1]

Scale: 0 10 20 m

550@A3



Appendix D: New Habitat Map

Appendix E: Site Photographs**Plate 1:** Image showing the sparsely vegetated urban land on site.**Plate 2:** Image showing the building and hard standing located at the east of the site.

Plate 3: Image showing the hard standing located in the middle of the site.



Plate 4: Image showing the hard standing located at the south of the site.



Appendix F: Biodiversity Net Gain Relevant Policies

Environmental Act 2021

Part 6 on nature and biodiversity covers all areas of biodiversity net gain across two core sections. This Act mandates that all planning meets a minimum of a 10% gain in biodiversity calculated using the appropriate Metric and that the newly created habitats are secured for at least 30 years.

National Planning Policy Framework (NPPF)

While currently not a legal obligation, biodiversity and environmental net gains are mentioned in the revised National Planning Policy Framework (NPPF) within the following paragraphs (please refer to the NPPF for the full quotations):

Achieving sustainable development

Paragraph 8 Section C. “an environmental objective – **to protect and enhance our natural, built and historic environment**; including making effective use of land, **improving biodiversity**, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

Preparing and reviewing plans

Paragraph 32. “Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This **should demonstrate how the plan** has addressed relevant economic, social and **environmental objectives** (including **opportunities for net gains**). Significant **adverse impacts on these objectives should be avoided** and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).”

Identifying land for homes

Paragraph 73 section C. “consider the opportunities presented by existing or planned investment in infrastructure, the area’s economic potential and the scope for **net environmental gains**”

Transport infrastructure:

Paragraph 104. “Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
d) the environmental impacts of traffic and transport infrastructure can be identified assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for **net environmental gains**.”

Planning decisions:

Paragraph 119 “Planning decisions and planning policy should a) encourage multiple benefits from both urban and rural land ... and taking opportunities to **achieve net environmental gains - such as developments that would enable new habitat creation.**”

Conserving and enhancing the natural environment

Paragraph 174 Section D. “**minimising impacts on and providing net gains for biodiversity**, including by establishing coherent ecological networks that are more resilient to current and future pressures”

Habitats and biodiversity

Paragraph 179. “To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and **safeguard components of local wildlife-rich habitats** and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, **enhancement, restoration or creation**;

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

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

a) if **significant harm to biodiversity** resulting from a development **cannot be avoided** (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then **planning permission should be refused**;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the **loss or deterioration of irreplaceable habitats** (such as ancient woodland and ancient or veteran trees) **should be refused**, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

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

The client has an obligation to ensure new habitats are created, managed and maintained to a high standard. This is not only secured through the National Planning Policy Framework (NPPF), but also through local planning policies.

Local Policy – Manchester Core Strategy 2012 to 2027**Policy EN 15****Biodiversity and Geological Conservation**

The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:

- sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham);
- other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);
- protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);
- sites that are recognised for their geological importance;
- the Council's objective to protect and conserve the City's existing trees and woodlands and the aim for a net increase in trees across the City.

Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, either on-site or adjacent to the site, contributing to linkages between valuable or potentially valuable habitat areas where appropriate, with reference to:

- the Manchester Biodiversity Strategy, which provides further details of priority habitats within Manchester and opportunities for biodiversity enhancement including corridors such as the Mersey, Medlock and Irk river valleys, the canals and disused railway lines and areas of managed greenspace particularly in parks;
- the Green Infrastructure Framework for Greater Manchester, which encompasses an ecological framework that seeks to guide and inform habitat creation and repair, including identifying large 'biodiversity opportunities areas' including the Moston Brook Corridor and Nutsford Vale;
- the Open Space, Sport & Recreation Study, which identifies areas where there is a deficit of natural and semi-natural greenspace, opportunities for green corridors and other linkages;
- Manchester's Climate Change Action Plan;
- the Strategic Flood Risk Assessment (SFRA) for Manchester;
- the Habitats Regulations Assessment (HRA) for Manchester, which gives detailed consideration to Special Areas of Conservation (SACs), including the Rochdale Canal SAC just outside the district boundary;
- the River Basin Management Plan for the North West;
- the Manchester Tree Strategy.

Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation. Development should wherever possible seek to maintain, enhance or restore existing geology.

Appendix G: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ To introduce lighting curfews or use of PIR sensors.

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ To consider no lighting solutions where possible.

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ To use only high pressure sodium or warm white LED lamps where possible.

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ To minimise the spread of light.

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ To consider the height of the lighting column.

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ To avoid reflective surfaces below lights.

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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No reliance should be made on any such comments in relation to the structural integrity of the features located on the surveyed site. All information within the report is based solely on evidence that has been found on site during the service provided. No individual opinion or inference will be made other than that of the suitably qualified ecologist appointed to the project.