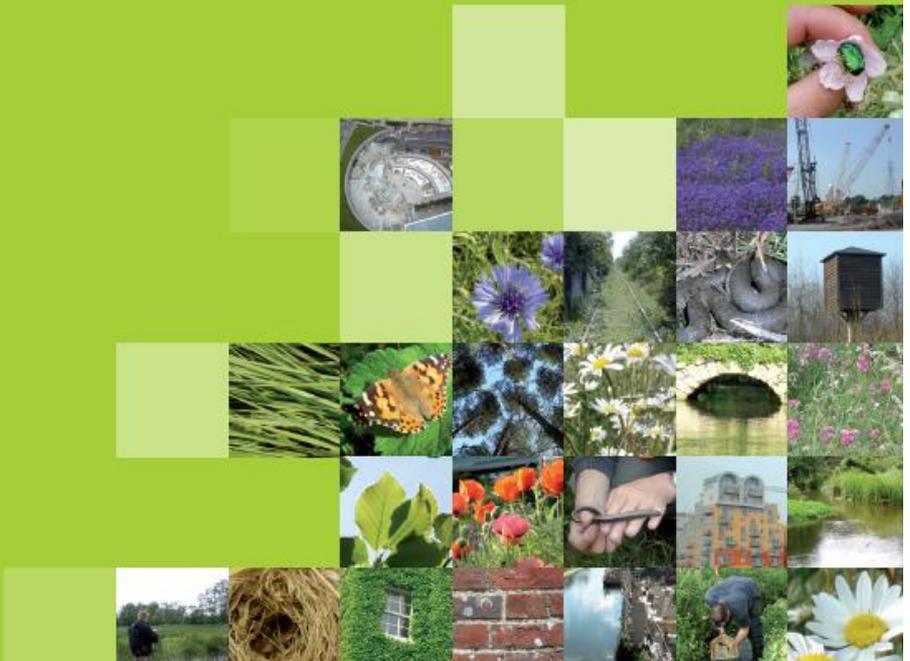


The



Ecology Consultancy

Land off De Montfort Way / Biodiversity Impact Assessment / ES Coventry Ltd



# Land off De Montfort Way, Coventry

## Biodiversity Impact Assessment

### Report for ES Coventry Ltd

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# Contents

- 1 INTRODUCTION..... 1**
- 2 METHODOLOGY ..... 2**
- 3 RESULTS ..... 5**
- 4 CONCLUSION AND RECOMMENDATIONS ..... 13**
- 5 REFERENCES ..... 15**
  
- APPENDIX 1: BIODIVERSITY IMPACT ASSESSMENT SUMMARY..... 16**
  
- APPENDIX 2: SITE PROPOSAL DRAWINGS ..... 19**

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# 1 Introduction

## BACKGROUND

- 1.1 The Ecology Consultancy was commissioned in August 2018 by ES Coventry Ltd to complete a Preliminary Ecological Appraisal (PEA) of a proposed development site at the land off De Montfort Way, Coventry (The Ecology Consultancy, 2018). The proposed development comprises the redevelopment of the existing car park, to provide a new student accommodation building and associated amenities, a new multi-storey car park, landscape enhancements, new pedestrian crossing and other public realm improvements.
- 1.2 On submission of the PEA report to Warwickshire County Council, it was advised by the Biodiversity Officer that a Biodiversity Impact Assessment must also be completed to inform the planning application. This report addresses this requirement.

## SITE CONTEXT

- 1.3 The proposed development site covers 2.25 hectares (ha) and is centred on Ordnance Survey National Grid reference SP 3052 7663. The site lies in the south-west of Coventry city. It is immediately bordered by retail buildings to the west, residential buildings to the south and by a cemetery to the north and east.

## 2 Methodology

- 2.1 The Biodiversity Impact Assessment has been based on the guidelines for biodiversity offsetting (DEFRA, 2012a; DEFRA, 2012b) and the Biodiversity Impact Assessment guide to using the Warwickshire, Coventry and Solihull v18 calculator (Environment Bank, 2014).
- 2.2 Following these guidelines, habitats at the site prior to development are given a biodiversity value based on their distinctiveness (i.e. their rarity and importance to biodiversity at a national scale) and their condition (i.e. their quality at the time of survey based on management and other environmental factors).
- 2.3 Distinctiveness bands are predefined in relation to habitat types and are automatically populated by the calculator; their associated scores, are as follows:
- low distinctiveness habitats achieve a score of 2;
  - medium distinctiveness habitats achieve a score of 4; and
  - high distinctiveness habitats achieve a score of 6
- 2.4 Condition bands - the condition of the habitats has been calculated based on the number of criteria met as set out in the condition tables in the Farm Environment Plan (FEP) Handbook, where the habitat is represented. Where all criteria are met, the habitat is assessed as having good condition, where one criterion is not met the habitat is assessed as having moderate condition, and where two or more criteria are not met, the habitat is assessed as having poor condition. The associated scores, are as follows:
- poor condition habitats achieve a score of 1;
  - moderate condition habitats achieve a score of 2; and
  - good condition habitats achieve a score of 3.
- 2.5 The biodiversity value of each existing habitat is calculated by the product of its area (ha), distinctiveness and condition. For example, an existing habitat measuring 2ha in size, of a medium distinctiveness (4 units) and a moderate condition (2 units) would achieve a score of 16 ( $2 \times 4 \times 2$ ). The total biodiversity value of the site prior to development is then calculated by the sum of the biodiversity scores of all habitats within the site.

2.6 The habitats proposed under the development are given a biodiversity value based on their distinctiveness and condition in the same way as for existing habitats (see 2.2 and 2.5 above).

2.7 Negative multipliers are implemented to account for temporal delays required for habitat establishment and uncertainty of success of habitat creation, as follows:

- habitats requiring up to 5 years' establishment require a negative multiplier of 1.2;
- habitats requiring up to 10 years' establishment require a negative multiplier of 1.4; and
- habitats requiring up to 15 years' establishment require a negative multiplier of 1.7;
- habitats with low difficulty of creation require a negative multiplier of 1;
- habitats with a medium difficulty of creation require a negative multiplier of 1.5; and
- habitats with a high difficulty of creation require a negative multiplier of 3.

2.8 The biodiversity value for each proposed habitat is derived from multiplying its area, distinctiveness and condition (see 2.3 and 2.4 above), then dividing by the negative multipliers for time for establishment and the difficulty of creation of each a habitat. For example, a new habitat measuring 2ha with a medium distinctiveness and moderate target condition (16 units) but requiring 10 years' establishment (/1.4) and having a medium difficulty of creation (/1.5), would achieve a score of 7.62 ( $16/(1.4*1.5)$ ). The total biodiversity value of the site following development is then calculated by the sum of the biodiversity scores of all new habitats within the site.

2.9 The assessment calculator generates a 'trading down' correction score that is applied to the final calculation of change in value where habitats will be replaced by those of lower nature conservation value. This is intended to minimise the loss of habitats of higher distinctiveness.

2.10 The biodiversity impact is calculated as follows:

Change in value = (Value after development) – (Value before development) + (Trading down correction value)

2.11 A summary of the calculations is provided in Section 3 of this report, and in full at Appendix 1.

2.12 The assessment of the site has been based on information gathered by a Preliminary Ecological Appraisal (The Ecology Consultancy, 2018) and the landscape proposals and planting schedule plans as shown in Appendix 2 (Park Hood, 2018).

## 3 Results

### EXISTING SITE – PRE CONSTRUCTION

3.1 The site is approximately 2.25ha. The following habitats were present within the site prior to construction (The Ecology Consultancy, 2018):

- buildings and hardstanding (1.49ha);
- broadleaved woodland (0.47ha);
- amenity grassland (0.16ha);
- scattered trees (0.08ha);
- introduced shrubs (0.05ha);
- species-rich hedgerows (280m); and
- species-poor hedgerows (400m).

### EXISTING HABITATS CONDITION ASSESSMENTS

#### *Buildings and Hardstanding*

3.2 No appropriate condition assessment in the FEP guidelines, default criteria used. Condition assessed based on potential to support protected species.

#### *Broadleaved Woodland*

3.3 The broadleaved woodland was assessed for condition according to the FEP guidelines, it passed on 3 criteria and failed on 2. The dominant species were native; it had a diverse age and height structure; and it was free from damage, however there were minimal standing or fallen dead wood present and was not protected from adjacent operations.

#### *Amenity Grassland*

3.4 No appropriate condition assessment in the FEP guidelines, default criteria used. Condition assessed based on species richness, age range and potential to support protected species.

#### *Scattered Trees*

3.5 No appropriate condition assessment in the FEP guidelines, default criteria used. Condition assessed based on species, age range and potential to support protected species.

### *Introduced Shrub*

- 3.6 No appropriate condition assessment in the FEP guidelines, default criteria used. Condition assessed based on species, age range and potential to support protected species.

### *Species-rich hedgerows*

- 3.7 Two sections of species-rich hedgerow were assessed for condition according to the FEP guidelines. The first section (surrounding the woodland) passed one criteria and failed on 2. This section contained less than 10% gaps, but didn't meet height or width criteria.
- 3.8 The second section of species-rich hedgerow was assessed for condition according to the FEP guidelines. It passed all 3 criteria as it contained less than 10% gaps, was 2m high and 1.5m wide

### *Species-poor hedgerows*

- 3.9 The species poor hedgerows were assessed for condition according to the FEP guidelines. The hedgerow failed on all 3 criteria as they contained minimal species and were short and narrow.

## **EXISTING BIODIVERSITY VALUE OF THE SITE**

- 3.10 The biodiversity value of the site prior to construction is calculated in Table 1 below.
- 3.11 The linear biodiversity value of the site prior to construction is calculated in table 2 below.

**Table 1: Biodiversity score prior to development**

Existing Habitat	A Area (ha)	Distinctiveness	B Score	Condition	C Score	A*B*C Biodiversity Score
Buildings and hardstanding	1.49	None	0	Poor	1	0.0
Amenity grassland	0.16	Low	2	Poor	1	0.32
Semi-Natural Broadleaved Woodland	0.47	High	6	Moderate	2	5.64
Introduced shrub	0.05	Low	2	Poor	1	0.1
Scattered Trees	0.08	Medium	4	Moderate	2	0.64
<b>Total Site Biodiversity Score</b>						<b>6.70</b>

**Table 2: Linear biodiversity score prior to development**

Existing Habitat	A Length (km)	Distinctiveness	B Score	Condition	C Score	A*B*C Biodiversity Score
Species-rich hedgerow (a)	0.2	High	6	Moderate	2	2.4
Species rich hedgerow (b)	0.08	High	6	Moderate	2	0.96
Species-poor hedgerow	0.5	Medium	4	Poor	1	2.0
<b>Total Site Biodiversity Score</b>						<b>5.36</b>

3.3 Accordingly the non-linear biodiversity value of the site prior to construction, in units, is 6.70, and the linear biodiversity of the site prior to construction is 5.36.

### **PROPOSED SITE – POST CONSTRUCTION**

3.4 The following habitats will be present within the site post-construction with target conditions assessed with reference to the FEP (see Proposal Plans, Appendix 2):

- new buildings and hardstanding (1.03ha);
- green roof (0.30ha);
- good semi-improved grassland (0.20ha);
- retained species poor hedgerows (0.5km);
- retained species rich hedgerows (0.13km);
- retained introduced shrub (0.05ha); and
- retained scattered trees (0.30ha).

3.5 The biodiversity value of the site post-construction is calculated in Table 3 below.

3.6 The linear biodiversity value of the site post-construction is calculated in Table 4 below.

**Table 3 – Biodiversity score following the development**

Proposed Habitat	D Area (ha)	Distinctiveness	E Score	Target Condition	F Score	Time (yrs)	G Multiplier	Difficulty	H Multiplier	(D*E*F)/G/H Biodiversity Score
<b>Retained Habitats (enhanced)</b>										
Semi natural broad-leaved woodland	0.30	High	6	Good	1	20	2	Medium	1.5	2.70
Amenity grassland	0.16	Medium	6	Good	2	5	1.2	Medium	1.5	2.40
Buildings and hardstanding	0.04	Low	2	Moderate	2	5	1.2	Low	1	0.13
<b>Retained Habitats</b>										
Introduced shrub	0.05	Low	2	Poor	2	5	1.2	Low	1	0.10
<b>New Habitats</b>										
Green Roof	0.17	Low	2	Good	3	5	1.2	Medium	1.5	0.57
Buildings and Hardstanding	1.03	None	0	Poor	1	5	1.2	Low	1	0
Scattered trees	0.3	Medium	4	Moderate	2	10	1.4	Medium	1.5	1.14
Introduced Shrub	0.05	Low	2	Moderate	2	5	1.2	Low	1	0.17

Amenity grassland	0.20	Medium	4	Moderate	2	10	1.4	Medium	1.5	1.00
<b>Total Site Biodiversity Score</b>										<b>6.14</b>
<b>Biodiversity Impact Score</b>										<b>+1.5</b>

**Table 4 – Biodiversity score for linear habitats following the development**

Proposed Habitat	D length (km)	Distinctiveness	E Score	Target Condition	F Score	Time (yrs)	G Multiplier	Difficulty	H Multiplier	(D*E*F)/G/H Biodiversity Score
<b>Created Habitats</b>										
Green Wall	0.2	Low	2	Good	3	5	1.2	Low	1	1
<b>Retained Habitats (enhanced)</b>										
Species-rich Hedgerow	0.08	High	6	Good	3	10	1.4	Low	1	1.03
Species-poor hedgerows	0.5	Medium	4	Good	3	5	1.2	Low	1	5.00
<b>Total Site Biodiversity Score</b>										<b>7.03</b>
<b>Biodiversity Impact Score</b>										<b>+0.93</b>



## CHANGE IN BIODIVERSITY VALUE

3.7 The biodiversity value calculations show the following change in biodiversity value, see Table 5 below:

Table 5 Biodiversity Impact Assessment Calculations

Habitats	Area (ha)	Habitat Biodiversity Value
Total existing area onsite	2.25	6.70
Habitats negatively impacted by development Habitat Impact Score	1.70	2.68
On site habitat mitigation Habitat Mitigation Score	2.25	4.18
<b>Habitat Biodiversity Impact Score</b> If -ve further compensation required		<b>1.50</b>
Percentage of biodiversity impact		
Linear features	Length (km)	Linear Biodiversity Value
Total existing length onsite	0.78	4.64
Linear features negatively impacted by development Linear Impact Score	0.20	1.20
On site linear mitigation Linear Mitigation Score	0.78	2.13
<b>Linear Biodiversity Impact Score</b> If -ve further compensation required		<b>0.93</b>
Percentage of linear biodiversity impact		

3.8 The change in biodiversity value as a result of the development is **1.50** units for habitats and **0.93** for linear features, which both give a **net gain**.

## 4 Conclusion and Recommendations

4.1 As compared with the pre-construction value, the biodiversity value of the site will be higher as the current landscape plans have been developed to maximise biodiversity post-development based on recommendations set out in the PEA. It can, therefore, be concluded that there will be a net gain to biodiversity as a result of the proposed development.

### RECOMMENDATIONS

#### *Biodiverse Green Roof*

4.2 It is recommended that a biodiverse green roof would be implemented at this site. The biodiverse roof should have a substrate depth of 80-150mm with varied topography to create microclimates valuable for invertebrates. The biodiverse roof should include at least 20 plant species of wildlife value and mimic the diverse flora typically associated with the Warwickshire BAP habitat 'Open Mosaic on Previously Developed Land'. Additional opportunities to wildlife can be provided by constructing small log piles.

#### *Biodiverse Green Wall*

4.3 It was recommended that a biodiverse green wall should be implemented at this site. The green wall should consist of several native flowering plant species. To achieve a higher number of plant species within the green wall the modular style walls should be used whereby plants are grown off site and put into the framework after, rather than using climbing plants.

#### *Native planting*

4.4 It was recommended that the proposed areas of amenity planting comprise a higher proportion of native tree and shrub species than pre-construction. Flowering plants of known wildlife value should be used within the final planting schedule as flowering plants that offer nectar sources are lacking within the immediate vicinity of the site.

4.5 The use of these plants species will benefit invertebrates, especially pollinators, and in turn, provide a food source for other species. It is also recommended that a greater number of native tree species are used within the planting scheme, including mature specimen trees and multi-stem trees to add structural diversity. Where possible, at ground-level the larger shrubs/trees should be under-planted with smaller shrubs and

herbaceous perennials to create greater structure within the planting scheme and to provide a variety of cover for wildlife. A list of suitable plant and tree species can be found on the RHS website:

[www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/rhs\\_pollinators\\_plantlist](http://www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/rhs_pollinators_plantlist)

## 5 References

CIRIA, CIEEM and IEMA (2016) *Biodiversity Net Gain: Good practice principals for development*. Available at [http://www.cieem.net/data/files/Publications/Biodiversity\\_Net\\_Gain\\_Principles.pdf](http://www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf) [Accessed 12/12/2016]

DEFRA (2012a) *Biodiversity Offsetting Pilots: Guidance for Developers*.

DEFRA (2012b) *Biodiversity Offsetting Pilots. Technical Paper: the metric for the biodiversity offsetting pilot in England*.

Environment Bank (2014) *Guide to Warwickshire, Coventry and Solihull Biodiversity Offsetting Biodiversity Impact Assessment Calculator v18*. Environment Bank.

Park-Hood (2018) *Land off De Montfort Way, Coventry: Planting Plan*. Drawing no. 6290-L-100

The Ecology Consultancy (2018) *Cannon Park Car Park, Coventry: Preliminary Ecological Appraisal*. Project no. 6912, The Ecology Consultancy, Lichfield.

# Appendix 1: Biodiversity Impact Assessment Summary

### Biodiversity Impact Assessment Summary

Site name:	Land off DeMontfort Way
Planning reference number:	TBC

Habitats	Area (ha)	Habitat Biodiversity Value
Total existing area onsite	2.25	6.70
Habitats negatively impacted by development Habitat Impact Score	1.70	2.68
On site habitat mitigation Habitat Mitigation Score	2.25	4.18
<b>Habitat Biodiversity Impact Score</b> If -ve further compensation required		<b>1.50</b>
Percentage of biodiversity impact		
Linear features	Length (km)	Linear Biodiversity Value
Total existing length onsite	0.78	4.64
Linear features negatively impacted by development Linear Impact Score	0.20	1.20
On site linear mitigation Linear Mitigation Score	0.78	2.13
<b>Linear Biodiversity Impact Score</b> If -ve further compensation required		<b>0.93</b>
Percentage of linear biodiversity impact		

CAUTION - Destruction of habitats of high distinctiveness, e.g. lowland meadow, ancient woodland or species-rich hedgerows, may be against local policy. Has the mitigation hierarchy been followed, can impact to these habitats be avoided?

Any unavoidable loss of habitats of high distinctiveness must be replaced like-for-like.

For any questions with regard to biodiversity impact and this development please contact Warwickshire County Council Ecological Services:

email: [planningecology@warwickshire.gov.uk](mailto:planningecology@warwickshire.gov.uk)

tel: 01926 418060

If there is an anticipated loss to biodiversity and no further ecological enhancements can be incorporated within the development it may be possible to compensate for this loss through a biodiversity offsetting scheme.

Please contact The Environment Bank for discussions on potential receptor sites in your area:

email: [Imartland@environmentbank.com](mailto:Imartland@environmentbank.com)

tel: 01926 412772



# Appendix 2: Site Proposal Drawings





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The Ecology Consultancy is part of the Temple Group.

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