



**Former Dairy Crest Depot,
Havant**

Biodiversity Net Gain (BNG)
Assessment

Author(s):

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Client:

Vivid Housing Ltd

05/08/2022

Report	Biodiversity Net Gain Assessment
Site Name	Former Dairy Crest Depot, Havant
Author(s)	Adam Jessop MSc ACIEEM and Madison Errington BSc (Hons)
Client	Vivid Housing Ltd
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1.0 INTRODUCTION

1.1 Background

Ecosupport Ltd were commissioned by Vivid Housing Ltd to undertake a Biodiversity Net Gain Assessment for a site called 'Former Dairy Crest Depot' in Havant.

The purpose of this assessment is to quantify the biodiversity value of the Site prior to its development, and the predicted value post development. This is measured in biodiversity units, calculated according to the habitats present based on their size, distinctiveness and condition. This enables the quantitative calculation of the predicted change in biodiversity value as a result of the proposed development, with the objective of achieving a net gain in biodiversity.

This report has been prepared by Principal Ecologist Adam Jessop MSc ACIEEM and Assistant Ecologist Madison Errington BSc (Hons).

1.2 Site Location and Description

The site is located along Dunsbury Way in Havant, PO9 5BQ (SU 71323 08206) (**Fig 1**). The site is bound to the West by Dunsbury Way and Fulflood Road to the North. A ditch and strip of unmanaged grassland with a line of trees then run to the South of the site separating the site from residential properties and associated garden space. Finally, to the East, lies commercial and industrial units. Due to the site being located within the town of Havant, the surrounding landscape is dominated by development.

Figure 1. Redline location plan of the site (HGP Architects 2022).



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1.3 Development Proposals

Application for approval of Reserved Matters (Appearance, Layout, Landscaping and Scale) pursuant to Outline Planning Permission ref. APP/18/01109, for the erection of 72 dwellings, together with communal amenity space, drainage, parking and associated infrastructure, landscape, ancillary and site preparation works, with access off Fulflood Road.

2.0 METHODOLOGY

The methodology for the assessment follows the Natural England Biodiversity Metric 3.0 habitat condition assessment protocols and uses the Biodiversity Metric 3.0 calculation tool to calculate biodiversity losses and gains (Natural England, 2021).

2.1 Habitat Assessment

Habitats on Site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 1.1 (UKHab Ltd., 2020). This was chosen as an appropriate habitat categorisation system as it fits within the Biodiversity Metric 3.0 calculation.

A condition assessment, in line with the Biodiversity Metric 3.0 Technical Supplement, was carried out on the Site on 5th April 2022. The area of identified habitats is calculated in hectares (ha), ignoring linear features or ditches (the area is measured to the centre line of such features). The length of linear features is measured separately in kilometres (km). The dominant habitat type was selected, according to those defined by UKHab Ltd (2020). Where there was disparity between the UK classification for habitat type and those present within the Biodiversity Metric 3.0 calculator tool, this was noted within the condition assessment tables.

2.2 Habitat Distinctiveness

Each habitat was assigned a score for distinctiveness, according to the Biodiversity Metric 3.0 calculator tool and Technical Supplement (Natural England, 2021). This ranged from Poor - High for most habitats, or Not Applicable (e.g., Developed Land – Sealed Surface). Using the tool, habitats were assigned a score based on their distinctiveness.

2.3 Habitat Condition

The condition of each habitat was assessed following criteria set out in the Biodiversity Metric 3.0 Technical Supplement (Natural England, 2021), which includes detailed assessment criteria for different habitats. Assistant Ecologists Madison Errington BSc (Hons) and Leah Murphy undertook the survey on the 5th April 2022, to undertake a condition assessment of the habitats present on site. Full results of the condition assessments can be found within **Section 3.0**. The condition of each habitat was assessed individually on site but was found to be the same for each type across the site except for areas of modified grassland. Therefore, the results of the habitat condition for each habitat are grouped together except for modified grassland.

2.4 Limitations

There were not considered to be any limitations on the results of the walkover surveys with all areas of the site accessible and the survey conducted at the appropriate time of year and during good weather conditions.

NB: The details of this report will remain valid for a period of 18 months (i.e. until September 2023). Beyond this period, if works have not yet been undertaken, it is recommended that a review of the validity of the conclusions are undertaken. Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the development layout which this report was based upon.

3.0 EXISTING HABITATS AND DEVELOPMENT PROPOSALS

Information on the existing habitats was initially provided by Ecosupport Ltd 'Phase I Ecological Survey – Dunsbury Way, Havant' (Ecosupport 2017). The following habitats were found on site at that time (according to Phase 1 habitat types):

- Amenity Grassland (managed and unmanaged)
- Scattered trees
- Hedgerow
- Line of trees
- Buildings
- Hardstanding

Sections 3.1 and 3.2 provide tables outlining the Condition Assessment undertaken with reference to the Biodiversity Metric 3.0 Technical Supplement (Natural England, 2021). For these assessments, the current habitats on site were categorised according to UK Hab (2020) classifications.

3.1 Non-linear Habitats

The following non-linear habitats were found on site, as shown in **Appendix A**:

- g4 - Modified grassland
- u1 - Built-up areas and gardens
 - Secondary code: 1160 - Introduced shrub
- u1b5 - Buildings
- u1b - Developed land; sealed surface

The following linear habitats were found on site, as shown in **Appendix A (See Section 3.2)**:

- h2 - Native hedgerow with trees
- w1g6 - Line of trees - Associated with a bank or ditch

The following tables outline the Condition Assessments undertaken on the 5th April 2022. Species composition of the habitats found on site can be found in the original Phase I Ecological Survey (Ecosupport 2017). No significant changes in species composition are believed to have occurred since this survey. The area of 'Scrub' within centre of site (Ecosupport 2017) is categorised as a Native hedgerow with trees within this assessment.

3.1.1 Modified grassland (Areas A, D & E)

Table 1: Condition assessment of Modified Grasslands on site

Map location	Areas A, D & E to the West of site																									
Area	0.007ha																									
Distinctiveness	Low																									
UK Hab Habitat Type	g4 – Modified grassland																									
Condition	Moderate condition (score 2): Passes all but criteria 2 (Sward height) and 7 (Absence of invasive non-native species). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>There must be 6-8 species per m². Note – if a grassland has 9 or more species per m² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.</td><td>PASS</td></tr> <tr> <td>2</td><td>Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.</td><td>FAIL</td></tr> <tr> <td>3</td><td>Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.</td><td>PASS</td></tr> <tr> <td>4</td><td>Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.</td><td>PASS</td></tr> <tr> <td>5</td><td>Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.</td><td>PASS</td></tr> <tr> <td>6</td><td>Cover of bracken less than 20%</td><td>PASS</td></tr> <tr> <td>7</td><td>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover.</td><td>FAIL</td></tr> </tbody> </table> ☐ Good condition (3): Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 ☒ Moderate condition (2): Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7 ☐ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria ¹ Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.		Item	Condition Assessment Criteria	Pass/Fail	1	There must be 6-8 species per m ² . Note – if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.	PASS	2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.	FAIL	3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	PASS	4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	PASS	5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	PASS	6	Cover of bracken less than 20%	PASS	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	FAIL
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3.1.2 Modified grassland (Area B)

Table 2: Condition assessment of Modified Grasslands on site

Map location	Area B to the West of site																									
Area	0.021ha																									
Distinctiveness	Low																									
UK Hab Habitat Type	g4 – Modified grassland																									
Condition	Moderate condition (score 2): Passes all but criteria 2 (Sward height), 3 (Scattered scrub) and 7 (Absence of invasive non-native species). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>There must be 6-8 species per m². Note – if a grassland has 9 or more species per m² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.</td><td>PASS</td></tr> <tr> <td>2</td><td>Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.</td><td>FAIL</td></tr> <tr> <td>3</td><td>Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.</td><td>FAIL</td></tr> <tr> <td>4</td><td>Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.</td><td>PASS</td></tr> <tr> <td>5</td><td>Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.</td><td>PASS</td></tr> <tr> <td>6</td><td>Cover of bracken less than 20%</td><td>PASS</td></tr> <tr> <td>7</td><td>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover.</td><td>FAIL</td></tr> </tbody> </table> ☐ Good condition (3): Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 ☒ Moderate condition (2): Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7 ☐ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria ¹ Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.		Item	Condition Assessment Criteria	Pass/Fail	1	There must be 6-8 species per m ² . Note – if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.	PASS	2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.	FAIL	3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	FAIL	4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	PASS	5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	PASS	6	Cover of bracken less than 20%	PASS	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	FAIL
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3.1.3 Modified grassland (Area C)

Table 3: Condition assessment of Modified Grasslands on site

Map location	Area C to the West of site																									
Area	0.002ha																									
Distinctiveness	Low																									
UK Hab Habitat Type	g4 – Modified Grassland																									
Condition	Poor condition (score 1): Passes all but criteria 1 (Species per m²), 2 (Sward height), 3 (Scattered scrub) and 5 (Cover of bare ground). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>There must be 6-8 species per m². Note – if a grassland has 9 or more species per m² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.</td><td>FAIL</td></tr> <tr> <td>2</td><td>Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.</td><td>FAIL</td></tr> <tr> <td>3</td><td>Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.</td><td>FAIL</td></tr> <tr> <td>4</td><td>Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.</td><td>PASS</td></tr> <tr> <td>5</td><td>Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.</td><td>FAIL</td></tr> <tr> <td>6</td><td>Cover of bracken less than 20%</td><td>PASS</td></tr> <tr> <td>7</td><td>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover.</td><td>PASS</td></tr> </tbody> </table> ☐ Good condition (3): Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 ☐ Moderate condition (2): Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7 ☒ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria ¹ Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.		Item	Condition Assessment Criteria	Pass/Fail	1	There must be 6-8 species per m ² . Note – if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.	FAIL	2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.	FAIL	3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	FAIL	4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	PASS	5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	FAIL	6	Cover of bracken less than 20%	PASS	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	PASS
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3.1.4 Modified grassland (Area F)

Table 4: Condition assessment of Modified Grasslands on site

Map location	Area F to the East of site																									
Area	0.016ha																									
Distinctiveness	Low																									
UK Hab Habitat Type	g4 – Modified Grassland																									
Condition	Moderate condition (score 2): Passes all but criteria 2 (Sward height) and 4 (Physical damage). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>There must be 6-8 species per m². Note – if a grassland has 9 or more species per m² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.</td><td>PASS</td></tr> <tr> <td>2</td><td>Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.</td><td>FAIL</td></tr> <tr> <td>3</td><td>Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.</td><td>PASS</td></tr> <tr> <td>4</td><td>Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.</td><td>FAIL</td></tr> <tr> <td>5</td><td>Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.</td><td>PASS</td></tr> <tr> <td>6</td><td>Cover of bracken less than 20%</td><td>PASS</td></tr> <tr> <td>7</td><td>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover.</td><td>PASS</td></tr> </tbody> </table> ☐ Good condition (3): Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 ☒ Moderate condition (2): Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7 ☐ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria ¹ Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.		Item	Condition Assessment Criteria	Pass/Fail	1	There must be 6-8 species per m ² . Note – if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.	PASS	2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.	FAIL	3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	PASS	4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	FAIL	5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	PASS	6	Cover of bracken less than 20%	PASS	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	PASS
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3.1.5 Modified grassland (Area G)

Table 5: Condition assessment of Modified Grasslands on site

Map location	Area G to the South of site																									
Area	0.05ha																									
Distinctiveness	Low																									
UK Hab Habitat Type	g4 – Modified Grassland																									
Condition	Poor condition (score 1): Passes all but criteria 3 (Scattered scrub), 4 (Physical damage), 5 (Cover of bare ground), 6 (Cover of bracken) and 7 (Absence of invasive non-native species). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>There must be 6-8 species per m². Note – if a grassland has 9 or more species per m² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.</td><td>PASS</td></tr> <tr> <td>2</td><td>Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.</td><td>PASS</td></tr> <tr> <td>3</td><td>Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.</td><td>FAIL</td></tr> <tr> <td>4</td><td>Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.</td><td>FAIL</td></tr> <tr> <td>5</td><td>Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.</td><td>FAIL</td></tr> <tr> <td>6</td><td>Cover of bracken less than 20%</td><td>FAIL</td></tr> <tr> <td>7</td><td>There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species¹ make up less than 5% of ground cover.</td><td>FAIL</td></tr> </tbody> </table> ☐ Good condition (3): Passes 6 or 7 of 7 criteria including non-negotiable criterion 7 ☐ Moderate condition (2): Passes 4 or 5 of 7 criteria; OR Passes 6 of 7 criteria excluding non-negotiable criterion 7 ☒ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria ¹ Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.		Item	Condition Assessment Criteria	Pass/Fail	1	There must be 6-8 species per m ² . Note – if a grassland has 9 or more species per m ² it should be classified as a moderate distinctiveness grassland habitat type. NB – this criterion is non-negotiable for achieving good condition.	PASS	2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20 per cent is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live in and breed.	PASS	3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note – patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	FAIL	4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	FAIL	5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	FAIL	6	Cover of bracken less than 20%	FAIL	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species ¹ make up less than 5% of ground cover.	FAIL
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3.2 Linear habitats

3.2.1 H1 – Native hedgerow with trees

Table 6: Condition assessment of Native hedgerow with trees on site

Map location	H1 – Centre of site																				
Length	0.042km																				
Distinctiveness	Medium																				
UK Habitat Type	h2 – Hedgerow, Secondary codes: 190 (hedgerow and trees)																				
Condition	Moderate condition (score 2): Passes all but condition B1 (Gap - hedge base), C1 (Undisturbed ground) and D1 (Invasive neophyte species).																				
	<table><tr><th colspan="3">Hedgerow favourable condition attributes</th></tr><tr><th>Attributes and functional groupings (A, B, C, D & E)</th><th>Criteria (the minimum requirements for 'favourable condition'</th><th>Description</th></tr><tr><td colspan="3">Core groups – applicable to all hedgerow types</td></tr><tr><td>A1. Height</td><td>>1.5m average along length</td><td> The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5m height). </td></tr><tr><td>A2. Width</td><td>>1.5m average along length</td><td> The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). </td></tr><tr><td>B1. Gap – hedge base</td><td>Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')</td><td>This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.</td></tr></table>			Hedgerow favourable condition attributes			Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition'	Description	Core groups – applicable to all hedgerow types			A1. Height	>1.5m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).	A2. Width	>1.5m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	B1. Gap – hedge base	Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.
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B1. Gap – hedge base	Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.																			

			Certain exceptions to this criterion are acceptable.
	B2 – Gap – hedge canopy continuity	• Gaps make up <10% of total length and • No canopy gaps >5m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).
	C1. Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial vegetation for >90% of length: • Measured from outer edge of hedgerow, and • Is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).
	C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (<i>Urtica</i> spp.), cleavers (<i>Galium aparine</i>) and docks (<i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.
	D1. Invasive neophyte species	>90% of the hedgerow is free of invasive non-native and neophyte species.	Neophytes are plants that have naturalised in the UK since AD 1500.
	D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).
	Additional groups – applicable to hedgerows with trees only		
	E1. Tree age	At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species.	This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity.
	E2. Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.

	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.
Note: Passes are emboldened in Table above. Condition categories for hedgerows with trees: ☐ Good condition (3): No more than 2 failures in total; AND No more than 1 failure in any functional group ☒ Moderate condition (2): No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition) ☐ Poor condition (1): Fails a total of more than 5 attributes; AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)	

3.2.2 H2 – Line of trees - Associated with a bank or ditch

Table 7: Condition assessment of Line of trees – Associated with a bank or ditch on site

Map location	H2 – Southern boundary of site																			
Length	0.078km																			
Distinctiveness	Low																			
UK Habitat Type	w1g6 – Line of trees – Associated with a bank or ditch																			
Condition	Moderate condition (score 2): Passes all but condition 2 (Tree canopy). <table border="1"> <thead> <tr> <th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr> </thead> <tbody> <tr> <td>1</td><td>More than 70% of trees are native species</td><td>PASS</td></tr> <tr> <td>2</td><td>Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide.</td><td>FAIL</td></tr> <tr> <td>3</td><td>Includes one or more mature or veteran trees</td><td>PASS</td></tr> <tr> <td>4</td><td>There is an undisturbed naturally vegetated strip of at least 6m on both sides to protect the lines of trees from farming and other anthropogenic operations.</td><td>PASS</td></tr> <tr> <td>5</td><td>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.</td><td>PASS</td></tr> </tbody> </table> ☐ Good condition (3): Passes 5 of 5 criteria ☒ Moderate condition (2): Passes 3 or 4 of 5 criteria ☐ Poor condition (1): Passes 0, 1 or 2 of 5 criteria		Item	Condition Assessment Criteria	Pass/Fail	1	More than 70% of trees are native species	PASS	2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide.	FAIL	3	Includes one or more mature or veteran trees	PASS	4	There is an undisturbed naturally vegetated strip of at least 6m on both sides to protect the lines of trees from farming and other anthropogenic operations.	PASS	5	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.	PASS
Item	Condition Assessment Criteria	Pass/Fail																		
1	More than 70% of trees are native species	PASS																		
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide.	FAIL																		
3	Includes one or more mature or veteran trees	PASS																		
4	There is an undisturbed naturally vegetated strip of at least 6m on both sides to protect the lines of trees from farming and other anthropogenic operations.	PASS																		
5	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.	PASS																		

4.0 PROPOSED CREATED HABITATS & NET GAIN ASSESSMENT

4.1 On Site

Following a consultation with HGP Architects, in order to minimise the loss of biodiversity on site, the following habitats are being provided / created (please refer to the landscape areas plan **Appendix B** for information on the locations of these habitats on site):

- The retention of the area of existing modified grassland along the southern boundary of site (Area G in **Table 5** and **Appendix A**) will be enhanced through appropriate management to become a meadow to increase floral diversity (listed as 'other neutral grassland' in the accompanying metric).
 - Recommended species planting of grass species may include Perennial Rye-grass (*Lolium perenne*), Common Bent (*Agrostis capillaris*), False Oat-grass (*Arrhenatherum elatius*), Yorkshire-fog (*Holcus lanatus*), Rough Meadow-grass (*Poa trivialis*) and Cock's-foot (*Dactylis glomerata*). Herb planting may include Yarrow (*Achillea millefolium*), Ribwort Plantain (*Plantago lanceolata*) and Creeping Thistle (*Cirsium arvense*).
- The public open space areas are being created to replace the loss of the modified grassland across site.
 - Recommended species planting grass species may include Rye grasses (*Lolium* spp.), Timothy (*Phleum pratense*), Yorkshire-fog (*Holcus lanatus*), and Cock's-foot (*Dactylis glomerata*). Grass cover is usually over 75% for this habitat type. Broadleaved species may include Dandelion (*Taraxacum officinale*), Creeping Buttercup (*Ranunculus repens*) and Greater Plantain (*Plantago major*).
- The retention of the line of trees – associated with bank or ditch along the southern boundary of site (H2 in **Table 7** and **Appendix A**) will be enhanced through appropriate management and planting into a native hedgerow with trees to offset the loss of hedgerow units from centre of the site (listed as 'native hedgerow with trees – associated with bank or ditch' in the accompanying metric).
 - Recommended species planting includes a mix of shrub and tree species such as Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Hazel (*Corylus avellana*), Field Maple (*Acer campestre*), Ash (*Fraxinus excelsior*) and Oak (*Quercus* spp.) interwoven with climbers including Traveller's-joy (*Clematis vitalba*) and Honeysuckle (*Lonicera periclymenum*).
 - Appropriate management post-enhancement should ensure that the planted hedgerow should be over 2m in height, over 30m in length of continuous vegetation, no wider than 5m at the base with the distinct line of tree canopy closer than 20m in length above it.

4.1.1 Metric Calculations

Following the incorporation of the above measures into the Defra 3.0 metric, **on site there is a net gain of 122.04% (or 0.35 habitat units)** with the biggest loss on site originating from the small areas of modified grassland across the site (see **Fig 2** below).

In addition to this, with the above recommended enhancement of the line of trees to the South undertaken through planting, **on site there is a net gain 10.94% (or 0.08 hedgerow units)**.

Figure 2. Screenshot of the 'headline results' output from the BNG assessment undertaken for the site using the Defra 3.0 metric.

On-site baseline	Habitat units	0.29
	Hedgerow units	0.71
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.64
	Hedgerow units	0.79
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	Habitat units	122.04%
	Hedgerow units	10.94%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.35
	Hedgerow units	0.08
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	122.04%
	Hedgerow units	10.94%
	River units	0.00%
Trading rules Satisfied?	Yes	

5.0 REFERENCES

Ecosupport Ltd (2017). *Phase I Ecological Survey: Dunsbury Way, Havant* (March 2017).

Natural England (2021). *The Biodiversity Metric 3.0 (JP039)*. Available from: <http://publications.naturalengland.org.uk/publication/6049804846366720>

UKHab Ltd. (2020). *UK Habitat Classification – Habitat Definitions Version 1.1* (September 2020).

Appendix A - UKHab Habitat Survey



Legend

- Site boundary
- g4 - Modified grassland
- ▨ u1 - Built-up areas and gardens
Secondary code: 1160 - Introduced shrub
- ▨ u1b - Developed land, sealed surface
- ▨ u1b5 - Buildings
- ▨ h2 - Native hedgerow with trees
- ▨ w1g6 - Line of trees



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Map	UKHab Habitat Survey
Site	Former Dairy Crest Depot, Havant
Client	Foreman Homes
Date	11/04/2022

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Appendix B – Post-Development Land Uses

