

Symmetry Park, Oxford North

Biodiversity Impact Assessment

Prepared by:
The Environmental
Dimension
Partnership Ltd

On behalf of: Tritax Symmetry Ltd and Siemens Healthineers

July 2022 Report Reference edp2425\_r021b

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Plan EDP 2 Detailed Landscape Proposals

(edp2425\_d017e 06 July 2022 LCH/BC)

Plan EDP 3 Post-development Habitats

(edp2425\_d049b 30 June 2022 GY/CP)

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|       | Report Ref: edp2425_r021 |           |             |                 |  |  |  |  |  |  |  |  |
|-------|--------------------------|-----------|-------------|-----------------|--|--|--|--|--|--|--|--|
|       | Author                   | Formatted | Peer Review | Proofed by/Date |  |  |  |  |  |  |  |  |
| r021  | CP                       | FJ        | JM          | SC 010722       |  |  |  |  |  |  |  |  |
| r021a | JM                       | -         | -           | LL/FJ 050722    |  |  |  |  |  |  |  |  |
| r021b | JM                       | -         | -           | DL 060722       |  |  |  |  |  |  |  |  |

# Section 1 Introduction and Methodology

#### Introduction

- 1.1 This Biodiversity Impact Assessment (BIA) has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of Tritax Symmetry Ltd and Siemens Healthineers (hereafter referred to as 'the Applicant'), to determine whether development proposals for the land at Symmetry Park, Oxford North (hereafter referred to as 'the Site') will deliver net biodiversity gain.
- 1.2 To calculate net gain, a BIA metric is used. This is a transparent way to calculate the biodiversity value of the habitats and hedgerows on an application site before and after development. It is a proxy measure to determine if the development will result in a likely on-site habitat biodiversity net loss or gain.

#### Methodology

- 1.3 To inform the Site proposals and demonstrate compliance with national and local planning policies relevant to biodiversity conservation, and national planning policy guidance relating to biodiversity (as updated by the Ministry of Housing, Communities and Local Government on 21 July 2019), a BIA was completed in October 2021 and subsequently updated to incorporate off-site habitats in May 2022. This iteration of the metric builds upon the metric undertaken in May 2022, by addressing comments from Cherwell District Council (CDC), for the inclusion of the off-site Ancient Woodland.
- 1.4 This report sets out the BNG score based on the on-site baseline habitats and post-development landscaping plans, as well as inclusion of the ancient woodland., the remaining adjacent area of broadleaved woodland and the woodland pond within the off-site area suggested for inclusion by Cherwell District Council (CDC) following a site meeting attended on 27 January 2022, during which the CDC Ecology Officer requested that these habitats be included. This report also includes a 15m buffer of the Ancient Woodland within the off-site areas.
- 1.5 Two areas within the red line boundary will not be subject to development/change. These areas were included as potential working corridors relating to the existing ditch running through the Site, but no works are proposed within these areas. The location of these areas is provided in **Plan EDP 1**.
- 1.6 The BIA was undertaken using the Department for Environment, Food and Rural Affairs (DEFRA) Biodiversity Metric 2.0 (version date: 19/12/2019), by an ecologist with experience of using such calculators, in accordance with the Biodiversity Metric 2.0 best

practice guidance<sup>1</sup>. The DEFRA Metric 2.0 was used over the more recent version of the Metric, due to the requirement to also undertake Building Research Establishment Environmental Assessment Method (BREEAM) calculations for the scheme. The BRE Group has previously published guidance which states that the updated version of the DEFRA Metric (version 3.0 at the time of the original assessment in October 2021) is significantly different to version Metric 2.0 and therefore cannot be used to demonstrate compliance with the UK NC 2018 standard. This project is subject to BREEAM assessment and therefore was required to use version 2.0 of the DEFRA Metric.

- 1.7 The assessment was undertaken in June 2022, based on the existing habitat information derived from the Extended Phase 1 Habitat Plan (which has informed the baseline habitats shown in **Plan EDP 1**) and proposed habitats detailed on the Detailed Landscape Proposals (**Plan EDP 2**). Input from the EDP landscape team has also been provided.
- 1.8 Site visits were undertaken on 07 October 2021 to undertake condition assessments of the on-site habitats by a suitably experienced ecologist in accordance with the methodology and condition assessment criteria set out by DEFRA<sup>2</sup>. A follow up condition assessment was undertaken on the off-site habitats comprising the woodland and pond habitats on 27 January 2022 following the same methodology.
- 1.9 An iterative approach has been used with the current landscaping scheme being refined from the outputs of previous initial BIA Metric results produced in October 2021 and May 2022. The detailed calculations are shown in **Appendix EDP 1**. GIS software has been used to accurately calculate areas of habitat to be retained, enhanced and created. The proposed habitats and schemes are illustrated in **Plan EDP 3**.

#### **Limitations**

1.10 The initial Site visit to undertake condition assessments was undertaken in October 2021 which is outside of the optimal season for surveys requiring botanical species identification. However, it was considered that given the nature of the habitats present and their respective condition criteria, with reference to an Extended Phase 1 Habitat survey undertaken in the optimal survey season (in April and June 2021), species identification was sufficient to adequately assess the condition of the habitats present.

1.11 Note that the calculations deal with linear features (hedgerows) and other habitats separately, resulting in two separate scores.

¹ Ian Crosher, Susannah Gold, Max Heaver, Matt Heydon, Lauren Moore, Stephen Panks, Sarah Scott, Dave Stone & Nick White, 2019. The Biodiversity Metric 2.0: auditing and accounting for biodiversity value. User guide (Beta Version, July 2019). Natural England.

<sup>&</sup>lt;sup>2</sup> Ian Crosher, Susannah Gold, Max Heaver, Matt Heydon, Lauren Moore, Stephen Panks, Sarah Scott, Dave Stone & Nick White, 2019. The Biodiversity Metric 2.0: Auditing and accounting for biodiversity value: technical supplement (Beta version, July 2019). Natural England.

## Section 2 Calculations

#### **Baseline Habitat Value**

#### **On-site Baseline Habitats**

2.1 The Site visit undertaken on 07 October 2021 confirmed that the Site predominantly comprises improved grassland fields along with one semi-improved grassland field, with smaller areas of bare ground, tall ruderal vegetation, wet and dry ditches and hedgerows. Areas of hardstanding and buildings are present in the north of the Site. **Table EDP 2.1** outlines the conditions of the habitats present based on the assessment undertaken following the DEFRA Metric 2.0 Technical Supplement condition criteria.

Table EDP 2.1: On-site Baseline Habitat Condition

| Habitat              | Reference        | Condition<br>Criteria Passed | Condition Criteria Failed | Condition               |
|----------------------|------------------|------------------------------|---------------------------|-------------------------|
| Improved             | Field <b>F1</b>  | 4, 5, 6, 7                   | 1, 2, 3                   | Poor - Agricultural     |
| Grassland            | 1101012          | 1, 0, 0, 1                   | 1, 2, 0                   | grassland with          |
| Improved             | Field <b>F2</b>  | 4, 5, 6, 7                   | 1, 2, 3                   | abundance of rye-grass  |
| Grassland            |                  | , , , , ,                    | _, _, _                   | (Lolium perenne) and    |
| Improved             | Field <b>F3</b>  | 4, 5, 6, 7                   | 1, 2, 3                   | white clover            |
| Grassland            |                  | , , ,                        | . ,                       | (Trofolium repens), and |
| Improved             | Field <b>F4</b>  | 4, 5, 6, 7                   | 1, 2, 3                   | poor species diversity. |
| Grassland            |                  |                              |                           |                         |
| Improved             | Field <b>F5</b>  | 5, 6, 7                      | 1, 2, 3, 4                |                         |
| Grassland            |                  |                              |                           |                         |
| Improved             | Field <b>F6</b>  | 4, 5, 6, 7                   | 1, 2, 3                   |                         |
| Grassland            |                  |                              |                           |                         |
| Poor                 | Field <b>F10</b> | 1, 2, 3, 4, 5                | -                         | Moderate - does not     |
| Semi-improved        |                  |                              |                           | meet description of     |
| Grassland            |                  |                              |                           | Priority Habitat.       |
| Bare Ground          | -                | 3                            | 1, 2                      | Poor.                   |
| Tall Ruderal -       | -                | 2, 3                         | 1, 4                      | Poor.                   |
| large area to south  |                  |                              |                           |                         |
| of farm buildings    |                  |                              |                           |                         |
| Tall Ruderal - small | -                | 2, 3, 4                      | 1                         | Moderate.               |
| area to west of      |                  |                              |                           |                         |
| farm building        |                  |                              |                           |                         |
| Scrub                |                  | 3                            | 1, 2, 4, 5                | Poor.                   |
| Ditch                | S1               | 1, 2, 3, 6, 8                | 4,5,7                     | Poor.                   |
| Ditch                | <b>S2</b> (dry   | 9, 10                        | 1, 2, 3, 4, 5, 6,         | Poor.                   |
|                      | section)         |                              | 7, 8                      |                         |
| Ditch                | <b>S2</b> (wet   | 1, 2, 4, 8, 9, 10            | 3, 5, 6, 7                | Moderate.               |
|                      | section)         |                              |                           |                         |
| Hedgerow             | H1               | A1, A2, B1, B2,              | -                         | Good.                   |
|                      |                  | C1, C2, D1, D2               |                           |                         |

| Habitat       | Reference | Condition       | Condition       | Condition              |
|---------------|-----------|-----------------|-----------------|------------------------|
|               |           | Criteria Passed | Criteria Failed |                        |
| Hedgerow      | Н3        | A1, A2, B1, B2, | C2              | Good.                  |
|               |           | C1, D1, D2      |                 |                        |
| Hedgerow      | H4        | A1, A2, B1, B2, | C2              | Good.                  |
|               |           | C1, D1, D2      |                 |                        |
| Hedgerow      | H5        | A1, A2, B1, B2, | C2, D2          | Good.                  |
|               |           | C1, D1          |                 |                        |
| Hedgerow      | Н6        | A1, A2, B1, B2, | -               | Good.                  |
|               |           | C1, C2, D1, D2, |                 |                        |
|               |           | E1, E2          |                 |                        |
| Hedgerow      | H7        | A1, A2, B1, B2, | -               | Good.                  |
|               |           | C1, C2, D1, D2, |                 |                        |
|               |           | E1, E2          |                 |                        |
| Hedgerow      | Н8        | A1, A2, B1, B2, | C2              | Good.                  |
|               |           | C1, D1, D2      |                 |                        |
| Hedgerow      | H13       | A1, A2, B1, B2, | -               | Good.                  |
|               |           | C1, C2, D1, D2  |                 |                        |
| Line of Trees | -         | -               | -               | Poor - comprising      |
|               |           |                 |                 | broadleaved trees at   |
|               |           |                 |                 | boundary line and line |
|               |           |                 |                 | of coniferous trees    |
|               |           |                 |                 | on-site with broken    |
|               |           |                 |                 | canopy.                |

- 2.2 None of the on-site habitats are considered to be of 'Strategic significance', and all have 'Low' ecological connectivity based upon the DEFRA Metric 2.0 connectivity assessment guidance, given that all the habitats are of medium distinctness or lower.
- 2.3 Based on this assessment, the Site to be assessed measures c.18.16 hectares (ha) and its current biodiversity value is 57.52 Baseline Habitat Units and 7.14 Baseline Hedgerow Units.

#### **Off-site Baseline Habitats**

- 2.4 The Site visit on 27 January 2022 undertook condition assessment of the broadleaved woodland habitat and the woodland pond located within the adjacent 'off-site' habitats located outside of the red line boundary.
- 2.5 Note the ancient woodland habitat is included within the assessment, however, the Metric does not specifically account for this habitat since ancient woodland is deemed one of the irreplaceable habitats for which BNG does not apply within best practice guidance, and impacts should be avoided. However, since the proposed works are to result in enhancement to this habitat rather than negative impacts/losses, it was deemed appropriate to include this habitat under 'lowland mixed deciduous woodland' that is of high strategic significance since ancient woodland habitats are included within local plans.

  Table EDP 2.2 outlines the result of the condition assessment undertaken.

2.6 The area of improved grassland that will be incorporated within the 'off-site' calculations to create a 15m buffer of the Ancient Woodland currently comprises the grassland in Field 4 where is it situated outside of the red line boundary. The condition of this area was assessed during the site visit in October 2021 to assess the on-site habitats.

Table EDP 2.2: Off-site Baseline Habitat Condition

| Habitat   | Reference                                 | Condition<br>Criteria<br>Passed | Condition<br>Criteria<br>Failed | Condition  |
|---|---|---------------------------------|---------------------------------|--|
| Broadleaved Woodland (lowland mixed deciduous woodland, including ancient woodland) | Off-Site<br>Broadleaved<br>Woodland       | 1, 2, 3, 6,<br>7, 8, 10,<br>12  | 4, 5, 9, 11                     | Moderate.  |
| Pond  | Off-site<br>Woodland<br>Pond              | 2, 5, 7, 8, 9                   | 1, 6                            | Moderate. Condition 3 and 4 N/A since it is woodland pond. Fails two criteria, with moderate water quality present and some artificial connectivity, but are not significantly impacting the pond. |
| Improved grassland  | F4 (located outside the red line boundary | 4, 5, 6, 7                      | 1, 2, 3                         | Poor - Agricultural grassland with abundance of rye-grass and white clover, and poor species diversity.  |
| Arable - cereal crops   | Off-Site<br>Arable<br>habitat             | NA                              | NA                              | Arable / cereal crops<br>automatically assigned as<br>Poor condition   |

#### **Proposed On-site Habitat Value**

- 2.7 The proposed application is for the erection of a combined research, development and production facility comprising of Class B2 floorspace and ancillary office floorspace with associated infrastructure including: formation of signal-controlled vehicular access to the A41 and repositioning of existing bus stops; ancillary workshops; staff facilities; security gate house; a building for use as an energy centre; loading bays; service yard; waste management area; external plant; vehicle parking; and landscaping.
- 2.8 This application will require the demolition of existing agricultural buildings within the red line boundary, the realignment of an existing on-site ditch, and creation and enhancement of habitats to provide a buffer between the development and adjacent land uses. The created and enhanced habitats will comprise the following:
  - A series of grassland habitats within the following species mixes species-rich meadow grassland, flowering lawn mixture, and hedgerow grass mixture;

- Amenity grassland;
- Mitigation planting of native shrub and trees along the A41 boundary to the south and the M40 boundary to the west to provide a screening buffer and enhance linear connectivity around the development periphery. This will comprise both native swathe planting and native feathered tree and shrub mix planting;
- Tree planting;
- Diverting the existing on-site ditch (**S2**) along the southern and western boundary to accommodate the development footprint;
- Retention and enhancement of several existing hedgerows at the boundaries of the Site;
- New hedgerow planting comprising both native and non-native (introduced shrub) hedgerows within the car park; and
- A series of drainage features comprising attenuation basins that will be created and managed as wet meadow grassland.

#### **Proposed Habitat Type and Condition**

- 2.9 Several new habitats will be created as part of the proposed landscaping strategy, whilst other retained habitat will be enhanced to improve their condition in order to achieve a net gain in habitat value post-development. The following section outlines the habitat to be created or enhanced, and provides a justification for the proposed target condition scores input into the Metric.
- 2.10 In order to meet the target habitat type and condition a detailed Habitat Management Plan (HMP) will be created in order to set out the specific management prescriptions for each habitat type on Site. The HMP will include measures for habitat creation/enhancement and ongoing management and maintenance to ensure that the target habitat quality and condition is met post-development.

#### **Habitat Creation**

Amenity Grassland (Poor Condition)

2.11 The created amenity grassland has been categorised as 'amenity grassland' of poor condition due to its amenity use and potentially greater levels of disturbance around the buildings and car park areas.

Species-rich Meadow Grassland (Other Neutral Grassland – Good Condition)

- 2.12 Areas of 'species-rich meadow grassland' will be created through sowing of Emorsgate Seed mix EM3: Special General Purpose Meadow Mixture, or similar, at a rate of 4g/m² to create areas of species-rich neutral grassland matching the description of 'other neutral grassland' under UK Habitat Classification. This species mix comprises a variety of wildflower and grass species including those commonly found in lowland meadow habitats. Species in the mixture include (but are not limited to) bird's-foot trefoil (Lotus corniculatus), greater knapweed (Centaurea scabiosa), meadowsweet (Filipenula ulmaria), lady's bedstraw (Galium verum), field scabious (Knautia arvensis), oxeye daisy (Leucanthemum vulgare), yellow rattle (Rhinanthus minor), crested dog's-tail (Cynosurus cristatus), red fescue (Festuca rubra) and common bent (Agrostis capillaris). This seed mix is recommended for where precise soil characteristics have not been established before sowing.
- 2.13 A 'good' condition score has been selected because it is considered that by sowing the above-mentioned seed mix and adherence to the HMP it will be possible to meet the condition criteria for 'good' condition grassland required by the DEFRA Metric 2.0 Technical Supplement, including wildflower and sedges of over 30% cover, with none of the indicators of poor condition present and meeting all the condition criteria with only minor variation.
- 2.14 The HMP will detail the specific management measures required to ensure that the grassland matches the description of a species-rich 'other neutral grassland' with a variety of wildflower, sedge and other neutral grassland meadow indicator species allowed to proliferate. This will include the specific methodology and timings for a cyclical cutting regime targeted at creating species rich meadow grassland habitat.
- 2.15 Monitoring and maintenance activities will also be detailed to ensure that indicators of poor condition are absent. This will comprise ensuring undesirable species, physical damage, and scrub/bramble (*Rubus fruticosus*) make up less than 5% ground cover, less than 10% of the ground consists of bare ground and less than 20% ground cover consists of bracken. A maintenance schedule will be included in the HMP to detail any localised treatment or clearance of undesirable species, and any remedial works, for example additional seed sowing for areas of damage/bare ground.
- 2.16 These habitat areas are located away from areas where high footfall or use by staff is anticipated (around buildings and car parks, etc.) and so should be protected from damage and disturbance from public use. However, where damage does occur the HMP will detail maintenance measures to ensure that the damage is remediated to bring the areas in line with their target condition criteria.
- 2.17 Furthermore, this habitat will need to be managed for reptiles, therefore the HMP will detail management prescriptions to create a variety of sward heights, a diversity of forb and grass species and management to prevent undesirable species, requiring an ecologically sensitive management regime.

Wet Meadow Grassland (Modified Grassland- Moderate Condition)

- 2.18 Within the proposed attenuation basins new wetland meadow grassland of moderate condition will be created through sowing of Emorsgate grassland seed mix 'EG8: Meadow Grass Mixture for Wet Soils', or similar, and will be sown at a rate of 4g/m<sup>2</sup>.
- 2.19 The HMP will detail the specific management measures required to ensure that the grassland matches the description of a semi-improved grassland habitat found in wetland habitat with a variety of wildflower, sedges and other wet meadow indicator species allowed to proliferate (in order to meet condition criteria 1). Adherence to the HMP will ensure that condition criteria 3 to 6 are met, by avoiding the negative poor condition criteria, as outlined above. A moderate condition has been selected as given the locations of these attenuation features within the Site and species mix proposed, it is unlikely that the habitat would meet the description of a Priority Habitat grassland.

Flowering Lawn (Other Neutral Grassland- Moderate Condition)

2.20 Several small areas of flowering lawn will be created with sowing of Emorsgate grassland seed mix EL1: Flowering Lawn Mixture, or similar, at a rate of 4g/m². This mixture comprises a selection of wildflower species that are tolerant to regular short mowing and therefore will be suitable for these locations proposed, which have a more visual amenity use around the buildings, entrances and car parks, and so will be subject to more regular maintenance. A moderate condition has been selected as it is considered, given the location on Site and species mix proposed, it is unlikely that the habitat would meet the description of a Priority Habitat grassland but would be more appropriately classified as a semi-improved grassland. However, it would be likely to meet the remaining moderate condition assessment criteria through implementation of the HMP to prevent the indicators of poor condition (condition criteria 4, 5 and 6).

Mixed Scrub Habitats (Mixed Scrub - Good Condition)

- 2.21 Landscape buffer planting has been incorporated into the scheme, comprising native swathe planting and native feathered tree and shrub mix planting in several locations across the Site boundaries. These habitats have been categorised as mixed scrub habitat since post-development they will consist of a dense scrub habitat without a single dominant species. It is considered that a feasible condition for this habitat could be 'good' since it is considered that with a considered species selection for planting and an appropriate management regime this is an achievable target condition for this habitat based on the five condition criteria, as follows:
  - The planting regime will ensure that at least three woody species will be present with no one species covering more than 75% of the area, and that no non-native and invasive species are included in the planting schedule, thus ensuring condition 1 of the condition assessment criteria is met;
  - The HMP will ensure discreet clearings and glades are designed for within the scrub to achieve condition 5;

- The HMP will provide specific management prescriptions and ongoing maintenance to ensure that criteria 2 to 5 are also met over the longer term;
- Adherence to the HMP will ensure that pernicious weed and invasive species make up less than 5% cover through regular monitoring and maintenance (including target spot treatment/eradication of non-target species as required); and
- Furthermore, regular management and cutting will ensure that the scrub has a well-developed edge with some taller herbs and grasses present on the margins between scrub and other habitat creating ecotones of habitats, and that clearings and glades are maintained and do not become overgrown or lost over time.
- 2.22 Furthermore, the HMP planting schedule will include provision for black hairstreak (Satyrium pruni) and brown hairstreak (Thecla betulae) butterflies within areas of mixed scrub, with the planting schedule to include blackthorn and with species-specific mitigation measures to ensure that management maintains patches of blackthorn for the benefit of these species, including a cyclical cutting regime that will allow an age range of blackthorn branches (including some of 2-3 years old) to provide suitable habitat for egg-laying.

#### **Ditches**

- 2.23 The proposed hardstanding car park requires that much of the existing ditch \$2, which extends in a west to east orientation across the Site, be lost to facilitate the development. As such it is proposed that the ditch is subject to realignment with the new course, increasing the length of the ditch habitat on-site to extend along the west and southern boundary of the Site.
- 2.24 The created ditch has been assigned a 'poor' condition as a worse-case scenario at this stage due to the extent of water present being unknown. The existing ditch **\$2** was dry at the time of survey along much of its length and a detailed drainage assessment has not been made for the proposed watercourse. Since the water level can have an influence on other habitat condition indicators (such as the diversity of aquatic species present, presence of marginal vegetation water quality, etc.), a worse-case scenario has been assumed, based on the ditch being dry for part of the year, and thus may fail several condition criteria as a result of the lack of water present.

#### Hedgerow Creation

- 2.25 Several hedgerows are to be created as part of the proposed development. These include native species-rich hedgerow planted around the periphery of the built development, bordered by species-rich grassland, amenity grassland of hedgerow grassland, as well as native hedgerow and native hedgerow with trees which will be planted within the landscaped areas of the car park providing screening.
- 2.26 It is considered that a 'good' condition can be achieved through adherence to an HMP that will include prescriptions for a cyclical hedgerow management regime aimed at promoting

- a good structural diversity of a minimum of 1.5m high and wide, with minimal gaps in the canopy or at the base, thus passing criteria A1, A2, B1 and B2.
- 2.27 Furthermore, the HMP can ensure a buffer of a minimum of 1m is maintained and managed for a diverse hedgerow ground flora, with less than 20% of undesirable species (criteria C1 and C2) and to protect the hedgerow from adjacent land uses and damage (D2).
- 2.28 A considered planting regime of native hedgerow species will ensure criteria D1 of the condition criteria is passed.
- 2.29 As with the areas of mixed scrub above, hedgerow creation and management within the HMP will include provision for black and brown hairstreak with the inclusion of blackthorn within the hedgerow and with species-specific mitigation measures detailed in the hedgerow HMP to ensure that the hedgerows are managed considerately for these species.
  - Tree Planting (Street Trees- Moderate Condition)
- 2.30 Tree planting will be undertaken within the built development footprint around the buildings and car parks to provide additional habitat and visual amenity benefits. These have been inputted into the Metric as small sized 'street trees' of moderate condition, which is the pre-assigned condition for urban street trees. A variety of native and non-native trees will be included in the planting scheme.

#### **Habitat Enhancement**

- 2.31 Areas of existing poor condition improved grassland will be enhanced to create wetland meadow grassland of moderate condition within the proposed attenuation features. Emorsgate grassland seed mix 'EG8: Meadow Grass Mixture for Wet Soils' or similar will be sown at a rate of 4g/m² to enhance the quality of the habitat from a species-poor grassland to a more species-rich grassland. The HMP will detail the specific management measures required to ensure that the grassland matches the description of a semi-improved grassland habitat found in wetland habitat with a variety of wildflower, sedge and other wet meadow indicator species allowed to proliferate. A moderate condition has been selected as given the locations of these attenuation features within the Site and species mix proposed it is unlikely that the habitat would meet the description of a Priority Habitat grassland.
- 2.32 Monitoring and maintenance activities will also be detailed to ensure undesirable species, physical damage, and scrub/bramble make up less than 5% ground cover, as well as ensuring less than 10% of the ground consists of bare ground and preventing bracken (*Pteridium aquilinum*) establishment.
- 2.33 Approximately 1.58ha of moderate quality species-poor semi-improved grassland in field **F10** will be enhanced to good condition 'other neutral grassland' through over-sowing of Emorsgate Seed mix EM3: Special General Purpose Meadow Mixture, or similar, at a rate

- of 4g/m² to enhance the quality of the habitat from a species-poor grassland to a species-rich meadow grassland.
- 2.34 Areas of 'hedgerow grassland' will be created adjacent to the retained hedgerows in several locations. This will require sowing Emorsgate EH1: Hedgerow mixture at a rate of 5g/m². This grassland mix comprises wildflower and grass species tolerant of partial shade that would be experienced beside and beneath hedgerows.
- 2.35 As with the created species-rich grassland, the HMP will detail the specific measures needed to achieve good condition through maintenance measures to prevent indicators of poor condition, ensure species diversity of wildflowers is maintained, and will detail the ground preparation measures required to prevent the existing dominant grasses of lower value overtaking the over-sown grassland seed mix.
  - Species-rich Meadow Grassland (Other Neutral Grassland Moderate Condition)
- 2.36 Following comments from CDC, regarding the feasibility of creating good condition grassland habitat in areas of amenity use, the post-development habitats in areas close to areas for amenity use have been amended as a precaution. A 'Trim trail' is proposed along the gravelled pathway along the re-aligned watercourse to the south of the site, and therefore this area may be subject to greater levels of amenity use. In previous iterations of the Metric it was proposed that the pathway would have areas of amenity grassland (modified grassland; poor condition) and enhancement of existing grassland, with use of species-rich grassland mix (other neutral grassland; good condition). However, given there may be high disturbance and levels of access, as a precaution this area has been downgraded in target condition to 'moderate' condition. It is considered that with the management as detailed within the HMP it will still be possible to meet a moderate condition through establishment of a diverse semi-improved grassland habitat, but also reflects that the condition criteria relating to matching characteristics of a priority habitat and cover of bare ground may be failed due to disturbance from amenity use.
- 2.37 Other areas of proposed 'other neutral grassland' of good condition are either located away from the main built development or have a buffer of amenity grassland between areas where people are likely to access (for example verges around the building and car parks), and as such these areas are not anticipated to result in significant footfall. However, as a precaution it is recommended that areas of good condition grassland and other areas to be used for nature conservation be clearly delineated and highlighted with use of signs directing people to avoid accessing these areas to ensure their conservation value can be maintained.

#### **Proposed Off-Site Habitat Value**

2.38 The on-site post-development habitat provision on its own achieved a net gain of c.4% in biodiversity units and as such, following the meeting with CDC on 27 January 2022, it was decided that adjacent off-site woodland habitat and associated pond within the wider survey area would be included within the BNG assessment as part of the off-site provision

in order to increase to biodiversity value and units available from the proposed development.

#### **Habitat Enhancement**

Woodland (Including Ancient Woodland)

- 2.39 The off-site woodland habitat currently comprises moderate condition lowland mixed deciduous woodland, of which part is designated as ancient woodland.
- 2.40 It is proposed that this woodland will be enhanced to good condition woodland through the implementation of a targeted Woodland Management Plan produced for the Site (report ref: edp2425\_r018). This management plan sets out the current characteristics of the two woodland compartments, and details the specific measures required to meet the aims of the plan which comprise the following:
  - To establish a long-term programme of restoration and enhancement of the woodland, in accordance with best arboriculture practice;
  - To ensure the enhancement of the woodland's existing habitats for the benefit of a range of wildlife species;
  - To manage existing access and introduce protection measures to mitigate against the impact of informal pedestrian traffic (trampling); and
  - To set out a maintenance regime for management of the tree stock.
- 2.41 Management measures include removing rubbish and fly-tipping within the woodland, thinning and coppicing in previous coppice compartments to improve structural diversity and encourage regeneration. Supplementary planning of native species is also proposed with a list of suitable tree and shrub species outlined within the report.
- 2.42 Through implementation of the Woodland Management Plan, the previously failed condition criteria relating to damage, inappropriate management and poor regeneration will be addressed. Therefore, the woodland compartments would be capable of achieving the condition assessment criteria for 'good' quality woodland, and thus would result in an enhancement in condition status.

Pond

- 2.43 The woodland pond will be enhanced from moderate to good condition habitat through the following measures detailed within the Woodland Management Plan aimed to address the previously failed condition criteria.
- 2.44 The artificial connections, comprising pipes and ditches will be removed from the existing pond to enable condition 6 to be passed.

- 2.45 Supplementary planting will be undertaken using appropriate native marginal and aquatic plant species to improve species diversity and help to improve water quality within the pond to attempt to address condition criteria 1.
- 2.46 The pond will also be fenced off in order to prevent negative impacts from pond disturbance and damage which will also help to address condition criteria 1, through preventing increased turbidity from animal encroachment and poaching.
- 2.47 By implementing the measures set out within the Woodland Management Plan, the majority of condition criteria relevant to woodland ponds can be met allowing a 'good' condition to be achieved.

#### Ancient Woodland Buffer Grassland

2.48 A 15m buffer will be created around the Ancient Woodland within Field **F4**. This will require enhancement of the existing poor condition improved grassland to good condition other neutral grassland. This will require management comparable to that set out in paragraphs 2.12 to 2.17, with the HMP detailing the specific management measures required in order to ensure that the condition criteria for 'good' condition habitat is able to be achieved, through ensuring a diverse, species-rich meadow grassland habitat with no indicators of poor condition above the required percentage thresholds.

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# Section 3 Results Summary

3.1 The BIA calculations pertaining to habitat areas and linear habitat features are based on the Detailed Landscape Proposals provided in **Plan EDP 2** and have been updated following feedback from the client and CDC. The proposed post-development habitats are shown in **Plan EDP 3**. It has been demonstrated that, based on current proposals, the Site alone is capable of delivering biodiversity net gain, as summarised in **Table EDP 3.1**.

**Table EDP 3.1**: Biodiversity Impact Assessment Summary

| Biodiversity Value         | Area Habitat Units | Hedgerow Units |
|----------------------------|--------------------|----------------|
| On-site baseline           | 57.52              | 7.14           |
| On-site post-development   | 57.80              | 9.13           |
| Off-site baseline          | 14.19              | 0.00           |
| Off-site post intervention | 18.01              | 0.00           |
| Net Balance (units)        | 4.10               | 2.00           |
| Net Change (%)             | 7.13%              | 27.98%         |

- 3.2 The Metric includes an assessment of whether certain Trading Rules have been met by the proposed scheme. Trading Rules applied by the Metric require that any loss of habitat is replaced on a 'like for like' or 'like for better' distinctiveness basis, to prevent 'trading down' whereby more ecologically valuable habitats are lost and replaced with larger areas of lower value habitats.
- 3.3 Under the above assessment, the Trading Rules for the Metric are satisfied, as high value habitats are enhanced, and loss of 'Medium' and 'Low' distinctness habitat is compensated for by a greater area of 'Medium' distinctness habitat overall.

#### **Discussion and Conclusions**

- 3.4 Overall, there is a net gain resulting from the proposed development. The landscaping scheme does include provision of green space, through creation of a variety of more valuable grassland habitats (including species-rich meadow and wetland meadow grassland), as well as native scrub and tree planting, a landscape buffer, and re-alignment of the existing ditch habitat in the southern part of the Site, which has allowed a gain of 7.13%% to be achieved overall.
- 3.5 A number of hedgerows have been lost in order to facilitate the development. However, additional hedgerow planting of species-rich native hedgerow between the edges of the built development and the green spaces, as well as native species hedgerow planting within the car parks and around the buildings has been incorporated into the scheme design, which has allowed a net gain of 27.98% to be achieved.
- 3.6 The development will install photovoltaic (PV) panels to achieve a total power output of at least 380kWpeak on each phase of the useable roof area (i.e., the omission of space taken

by roof lights; man-safe working and the roof signage), with planning permission sought for an array extending to 100% of the useable roof area. The final level of PVs installed will be based on Siemens Healthineers final energy requirements, with the remaining space 'future proofed' to accommodate any future energy generation requirements. Therefore, there will not be available space for green roofs in this instance in order to increase the potential units that can be obtained on-site.

- 3.7 The above assessment is considered to represent an achievable estimate of the changes in biodiversity value obtained from the Detailed Landscape Proposals. As noted in **Section 2**, the proposed habitat types and target conditions will require some level of management and monitoring to ensure that the habitats achieve the desired outcomes over time. It is considered that the proposed habitats are realistically achievable on-site with use of a targeted HMP, which will be produced to provide more additional detail regarding how these habitats will be created and subsequently maintained at their target habitat type and condition. Periodic monitoring will be necessary to determine whether habitats are achieving their target condition and will be able to highlight where further management and maintenance activities may be required to address any failures in habitat establishment.
- 3.8 In addition to Biodiversity Net Gain benefits, it is considered the creation of the above habitats will provide supplementary benefits for other species; creation of 0.9ha of mixed scrub/other neutral grassland habitats in addition to the onsite 3.142ha of scrub and tree habitats and 0.742ha of grassland habitats (excluding low value amenity grassland).
- 3.9 Previous survey and assessment concluded that there is not a significant population of breeding and wintering bird species using the Site, that would otherwise require specific mitigation. Of the species noted as being of concern to CDC and the BBOWT, including skylark (*Aluda arvensis*), linnet (*Linaria cannabina*), song thrush (*Turdus philomelos*) and dunnock (*Prunella modularis*), surveys undertaken for the Site recorded very low numbers of these species utilising the Site and as such impacts to these species resulting from the development are considered to be limited.
- 3.10 In addition to Biodiversity Net Gain benefits, it is considered the creation of new and enhanced 'other neutral grassland' habitats, and the planting of new native hedgerows, trees and mixed scrub within the Site and in the area associated with the offsite Ancient Woodland, will create new and enhanced habitats. These proposed grassland, tree and scrub habitats therefore are considered to provide additional sheltering and foraging habitats for a variety of priority species of breeding and wintering birds that may be present on Site.
- 3.11 As such, provision of the above-mentioned grassland habitats should be sufficient to accommodate the very low on-site populations of skylark. Likewise, the abundant provision of scrub habitat, other neutral grassland and hedgerows on Site should provide sufficient habitat for nesting linnet, dunnock and song thrush.

# Appendix EDP 1 Biodiversity Impact Assessment Metric 2.0

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edp2425 Junction 9, M40, Bicester, Oxon

**Headline Results** 

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|  | Habitat units   | 57.52                                |
|--|---|--------------------------------------|
| On-site baseline   | Hedgerow units  | 7.14                                 |
|  | River units   | 0.00                                 |
|  |   |                                      |
| On-site post-intervention  | Habitat units   | 57.80                                |
| ·  | Hedgerow units  | 9.13                                 |
| (Including habitat retention, creation, enhancement & succession)  | River units   | 0.00                                 |
|  |   |                                      |
|  | Habitat units   | 14.19                                |
| Off-site baseline  | Hedgerow units  | 0.00                                 |
|  | River units   | 0.00                                 |
|  |   |                                      |
|  |   |                                      |
| Off-site post-intervention   | Habitat units   | 18.01                                |
| Off-site post-intervention   | Habitat units<br>Hedgerow units   | 18.01<br>0.00                        |
| Off-site post-intervention (Including habitat retention, creation, enhancement & succession)   |   |                                      |
| ·  | Hedgerow units<br>River units   | 0.00                                 |
| (Including habitat retention, creation, enhancement & succession)  | Hedgerow units<br>River units<br>Habitat units                                      | 0.00<br>0.00<br>4.10                 |
| (Including habitat retention, creation, enhancement & succession)  Total net unit change   | Hedgerow units River units Habitat units Hedgerow units                             | 0.00<br>0.00<br>4.10<br>2.00         |
| (Including habitat retention, creation, enhancement & succession)  | Hedgerow units<br>River units<br>Habitat units                                      | 0.00<br>0.00<br>4.10                 |
| (Including habitat retention, creation, enhancement & succession)  Total net unit change   | Hedgerow units River units  Habitat units Hedgerow units River units                | 0.00<br>0.00<br>4.10<br>2.00<br>0.00 |
| (Including habitat retention, creation, enhancement & succession)  Total net unit change (including all on-site & off-site habitat retention/creation) | Hedgerow units River units  Habitat units Hedgerow units River units  Habitat units | 0.00<br>0.00<br>4.10<br>2.00<br>0.00 |
| (Including habitat retention, creation, enhancement & succession)  Total net unit change   | Hedgerow units River units  Habitat units Hedgerow units River units                | 0.00<br>0.00<br>4.10<br>2.00<br>0.00 |



|     |                         | Habitats and areas                          |                    | Habitat dist    | inctiveness | Habitat       | condition |                         | Ecological connectivi | ity                     | Strateg   | ic significance               |                               | Constant antique to a 11  | Ecological<br>baseline |
|-----|-------------------------|---|--------------------|-----------------|-------------|---------------|-----------|-------------------------|-----------------------|-------------------------|---|-------------------------------|-------------------------------|---|------------------------|
| Ref | Broad Habitat           | Habitat type                                | Area<br>(hectares) | Distinctiveness | Score       | Condition     | Score     | Ecological connectivity | Connectivity          | Connectivity multiplier | Strategic significance  | Strategic<br>significance     | Strategic position multiplier | Suggested action to address<br>habitat losses                   | Total habita units     |
| 1   | Urban                   | Urban - Vacant/derelict land/ bareground    | 0.29               | Low             | 2           | Poor          | 1         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same distinctiveness or better<br>habitat required              | 0.58                   |
| 2   | Urban                   | Urban - Developed land; sealed surface      | 0.19               | V.Low           | 0           | N/A - Other   | 0         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Compensation Not Required                                       | 0.00                   |
| 3   | Urban                   | Urban - Street Tree                         | 0.01               | Low             | 2           | Moderate      | 2         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same distinctiveness or better<br>habitat required              | 0.04                   |
| 4   | Heathland and shrub     | Heathland and shrub - Mixed scrub           | 0.1                | Medium          | 4           | Poor          | 1         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                             | Same broad habitat or a higher distinctiveness habitat required |                        |
| 5   | Urban                   | Urban - Developed land; sealed surface      | 0.59               | V.Low           | 0           | N/A - Other   | 0         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Compensation Not Required                                       | 0.00                   |
| 6   | Grassland               | Grassland - Modified grassland              | 12.73              | Low             | 2           | Poor          | 1         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same distinctiveness or better<br>habitat required              | 25.46                  |
| 7   | Grassland               | Grassland - Other neutral grassland         | 3.5                | Medium          | 4           | Moderate      | 2         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                             | Same broad habitat or a higher distinctiveness habitat required |                        |
| 8   | Lakes                   | Lakes - Ditches                             | 0.01               | Medium          | 4           | Moderate      | 2         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same broad habitat or a higher distinctiveness habitat required |                        |
| 9   | Lakes                   | Lakes - Ditches                             | 0.08               | Medium          | 4           | Poor          | 1         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same broad habitat or a higher distinctiveness habitat required |                        |
| 10  | Sparsely vegetated land | Sparsely vegetated land - Ruderal/Ephemeral | 0.65               | Low             | 2           | Moderate      | 2         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same distinctiveness or better<br>habitat required              | 2.60                   |
| 11  | Sparsely vegetated land | Sparsely vegetated land - Ruderal/Ephemeral | 0.02               | Low             | 2           | Poor          | 1         | Low                     | Unconnected habitat   | 1                       | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                             | Same distinctiveness or better<br>habitat required              | 0.04                   |
| 12  |                         |   |                    |                 |             |               |           |                         |                       |                         |   |                               |                               |   |                        |
| 13  |                         |   |                    |                 |             |               |           |                         |                       |                         |   |                               |                               |   |                        |
| 15  |                         |   |                    |                 |             |               |           |                         |                       |                         |   |                               |                               |   |                        |
| 16  |                         |   |                    |                 |             |               |           |                         |                       |                         |   |                               |                               |   |                        |
| 17  |                         |   |                    |                 |             | $\overline{}$ |           |                         |                       |                         |   |                               |                               |   | -                      |
|     |                         | Total site area ha                          | 18.16              |                 |             |               |           |                         |                       |                         |   |                               |                               | Total Site baseline   | 57.52                  |

| retained enhanced         succession retained         enhanced succession |      |      |       |       |       |           |              | Bespoke compensation                 | Comr   | ments             |
|---|------|------|-------|-------|-------|-----------|--------------|--------------------------------------|--|-------------------|
|   |      |      | units | units | units | Area lost | Units lost   | agreed for<br>unacceptable<br>losses | Assessor comments  | Reviewer comments |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.29      | 0.58         |                                      | Bare ground  |                   |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.19      | 0.00         |                                      | Building   |                   |
| 0.01  |      |      | 0.04  | 0.00  | 0.00  | 0.00      | 0.00         |                                      | Single tree falling under Street tree, as bordered by hard<br>standing on one side. Given location (area to be meadow),<br>likely to be retained post dev.   |                   |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.10      | 0.40         |                                      | Dense scrub.   |                   |
|   |      |      |       | 0.59  | 0.00  |           | Hardstanding |                                      |  |                   |
| 0.01  | 0.01 |      | 0.02  | 0.02  | 0.00  | 12.71     | 25.42        |                                      | Improved grassland.  |                   |
| 0.24  | 1.75 |      | 1.92  | 14.00 | 0.00  | 1.51      | 12.08        |                                      | Poor semi-Improved grassland. Grassland assesssed as poor<br>semi-improved as it does not meet criteria to achieve Priorty<br>Habitat status   |                   |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.01      | 0.08         |                                      | Ditch - S2 (wetted part of the ditch). On site watercourse<br>assessed as a ditch due to nature of feature draining the<br>surrounding arable land, the lack of water throughout much<br>of the year, association with a hedgerow and given that<br>sections have been artificially modified. Furthermore, within<br>the Metric 2.0 User Guide rivers and streams are defined as<br>those classed as Main River or 'Ordinary Watercourse',<br>which is not the case for the ditch. |                   |
| 0.01  |      |      | 0.04  | 0.00  | 0.00  | 0.07      | 0.28         |                                      | Dith S1 and S2 (poor sections- dny). Watercourse S2 assessed as a dirk due to nature of feature draining the surrounding arable land, the lack of water throughout much of the year, association with a hedgerow and given that sections have been artificially modified. Furthermore, within the Metric 2.0 User Guide rivers and streams are defined as those classed as Main River or 'Ordinary Watercourse', which is not the case for the ditch.                              |                   |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.65      | 2.60         |                                      | Tall ruderal vegetation  |                   |
|   |      |      | 0.00  | 0.00  | 0.00  | 0.02      | 0.04         |                                      | Tall ruderal vegetation  |                   |
|   |      |      |       |       |       |           |              |                                      | Broadleaved woodland   |                   |
|   |      |      |       |       |       |           |              |                                      |  |                   |
|   |      |      |       |       |       |           |              |                                      |  |                   |
|   |      |      |       |       |       |           |              |                                      |  |                   |
|   |      |      |       |       |       |           |              |                                      |  |                   |
|   |      |      |       |       |       |           |              |                                      |  |                   |
| 0.27  | 1 76 | 0.00 | 2.02  | 14.02 | 0.00  | 16 14     | 41.48        |                                      |  |                   |



|  |                    |                 |       |             |       | Post deve               | elopment/ post intervention | on habitats                |   |                               |                                     |                                |                              |                                       |   |                         |  |                   |
|--|--------------------|-----------------|-------|-------------|-------|-------------------------|-----------------------------|----------------------------|---|-------------------------------|-------------------------------------|--------------------------------|------------------------------|---------------------------------------|---|-------------------------|--|-------------------|
|  |                    |                 |       |             |       |                         | Ecological connectivity     |                            | Strategic signi   | ficance                       |                                     | Temporal n                     | nultiplier                   | Difficulty                            | multipliers                             |                         | Com  | ments             |
| Proposed habitat                                 | Area<br>(hectares) | Distinctiveness | Score | Condition   | Score | Ecological connectivity | Connectivity                | Connectivity<br>multiplier | Strategic significance  | Strategic<br>significance     | Strategic<br>position<br>multiplier | Time to target condition/years | Time to target<br>multiplier | Difficulty of<br>creation<br>category | Difficulty of<br>creation<br>multiplier | Habitat units delivered | Assessor comments  | Reviewer comments |
| Urban - Introduced shrub                         | 0.09               | Low             | 2     | Poor        | 1     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 1                              | 0.965                        | Low                                   | 1                                       | 0.17                    | Ornamental planting  |                   |
| Urban - Artificial unvegetated, unsealed surface | 0.05               | V.Low           | 0     | N/A - Other | 0     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 0                              | 1.000                        | Low                                   | 1                                       | 0.00                    | Gravel path  |                   |
| Urban - Amenity grassland                        | 1.31               | Low             | 2     | Poor        | 1     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 1                              | 0.965                        | Low                                   | 1                                       | 2.53                    | Amenity grassland.   |                   |
| Grassland - Other neutral grassland              | 0.02               | Medium          | 4     | Moderate    | 2     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 10                             | 0.700                        | Low                                   | 1                                       | 0.11                    | Flowering lawn mixture   |                   |
| Heathland and shrub - Mixed scrub                | 3.14               | Medium          | 4     | Good        | 3     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                                   | 7                              | 0.779                        | Low                                   | 1                                       | 29.36                   | Native Feathered tree and shrub mix; Native swathe planting, Native shrub mix. Condition score based on the fact that the habitat will need to be managed for black and brown hairsreak therefore robust management will be needed including provision of young scrub for the butterfly species, requiring an ecologically sensitive management regime.                                      |                   |
| Urban - Developed land; sealed surface           | 10.47              | V.Low           | 0     | N/A - Other | 0     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 0                              | 1.000                        | Low                                   | 1                                       | 0.00                    | Buildings and hardstanding   |                   |
| Urban - Street Tree                              | 0.14               | Low             | 2     | Moderate    | 2     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 27                             | 0.382                        | Low                                   | 1                                       | 0.21                    | Planted trees  |                   |
| Grassland - Other neutral grassland              | 0.45               | Medium          | 4     | Good        | 3     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local<br>strategy/ no local strategy | Low Strategic<br>Significance | 1                                   | 15                             | 0.586                        | Low                                   | 1                                       |                         | Species rich meadow grass; Tussock grass mixture. Condition score based on the fact that the habitat will need to be managed for reptiles therefore robust management will be needed to ensure management to create a variety of sward heights, a diversity of forb and grass species and management to previous undesirable species, requiring an ecologically sensitive management regime. |                   |
| Lakes - Ditches                                  | 0.33               | Medium          | 4     | Poor        | 1     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                                   | 1                              | 0.965                        | Low                                   | 1                                       | 1.27                    | Created ditch. Condition score given as worst case scenario based on low water levels throughout year as with current ditch, which may have impacts on other criteria  |                   |
| Grassland - Modified grassland                   | 0.28               | Low             | 2     | Moderate    | 2     | Low                     | Unconnected habitat         | 1                          | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                                   | 10                             | 0.700                        | Low                                   | 1                                       | 0.78                    | Wetland meadow grass in attenuation basin. Condition as moderate as likely to meet criteria except that of displaying characteristics of Priority Habitat  |                   |
| Totals   | 16.14              |                 |       |             |       |                         |                             |                            |   |                               |                                     |                                |                              |                                       | Total Units                             | 37.61                   |  |                   |

| edp      | 125 Junction 9, M40, Bicester, Oxon         |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
|----------|---|---|--------------------------|--|--------------------|-----------------|--------------------------|-------------------------|---|--------------------------------|--|----------------------------|--|-------------------|
| A-3      | Site Habitat Enhancement                    |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
|          | ondense / Show Columns Condense / Show Rows |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
|          | Main Menu Instructions                      |   |                          | Post development/ post interv            | vention habit      | ats             |                          |                         |   |                                |  |                            |  |                   |
|          | Baseline habitats                           | Change in disti   | nctiveness and condition | ·  |                    |                 |                          | Ecological connectivity | Strategic significance  | Temporal multiplier            | Difficulty<br>multipliers                |                            |  | ments             |
| Base     |   | Proposed habitat<br>(Pre-populated but can be overridden) | Distinctiveness change   | Condition change                         | Area<br>(hectares) | Distinctiveness | istinctiveness Condition |                         | Strategic significance  | Time to target condition/years | Difficulty of<br>enhancement<br>category | Habitat units<br>delivered | Assessor comments  | Reviewer comments |
| 6        | Grassland - Modified grassland              | Grassland - Other neutral grassland                       | Low - Medium             | Lower Distinctiveness Habitat - Moderate | e 0.01             | Medium          | Moderate                 | Low                     | Area/compensation not in local<br>strategy/ no local strategy | 10                             | Low                                      | 0.06                       | Modified grassland (improved) enhanced to better quality 'other neutral grassland' with use of wetland meadow grass mixture around attenuation ponds. Condition as moderate as likely to meet criteria except that of displaying characteristics of Priority Habitat.  |                   |
| 7        | Grassland - Other neutral grassland         | Grassland - Other neutral grassland                       | Medium - Medium          | Moderate - Good                          | 1.75               | Medium          | Good                     | Low                     | Area/compensation not in local<br>strategy/ no local strategy | 15                             | Low                                      | 18.10                      | Semi-improved grassland and improved grassland enhanced to 'other neutral grassland' with use of species rich meadow grass mixture. Condition score based on the fact that the habitat will need to be managed for reptiles therefore robust management will be needed to ensure management to create a variety of sward heights, a diversity of forb and grass species and management to previous undesirable species, requiring an ecologically sensitive management regime. |                   |
| _        |   |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
|          |   |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
| _        |   |   |                          |  |                    |                 |                          |                         |   |                                |  |                            |  |                   |
| <u> </u> |   |   |                          | Total site area                          | 1.76               |                 |                          |                         |   |                                | Enhancement<br>total                     | 18.16                      |  |                   |



|                 |                 | UK Habitats - existing habitats                 |              | Habitat distincti | veness | Habitat condi | tion  |                         | Ecological connectivity |                            | Strategic signi   | ficance                       |                                     |   | Ecologi<br>baselii     |
|-----------------|-----------------|---|--------------|-------------------|--------|---------------|-------|-------------------------|-------------------------|----------------------------|---|-------------------------------|-------------------------------------|---|------------------------|
| Baseline<br>ref | Hedge<br>number | Hedgerow type                                   | length<br>KM | Distinctiveness   | Score  | Condition     | Score | Ecological connectivity | Connectivity            | Connectivity<br>multiplier | Strategic significance  | Strategic significance        | Strategic<br>position<br>multiplier | Suggested action to<br>address habitat losses | Tota<br>hedger<br>unit |
| 1               | Н1              | Native Hedgerow                                 |              | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Same distinctiveness<br>band or better        | 0.16                   |
| 2               | нз              | Native Hedgerow                                 | 0.116        | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Same distinctiveness<br>band or better        | 0.6                    |
| 3               | Н4              | Native Hedgerow                                 | 0.212        | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Same distinctiveness<br>band or better        | 1.2                    |
| 4               | H5              | Native Hedgerow                                 | 0.39         | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Same distinctiveness<br>band or better        | 2.                     |
| 5               | Н8              | Native Hedgerow                                 | 0.038        | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Significance                  | 1                                   | Same distinctiveness<br>band or better        | 0.                     |
| 6               | Н13             | Native Hedgerow - Associated with bank or ditch | 0.019        | Medium            | 4      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Like for like or better                       | 0.                     |
| 7               | Н6              | Native Hedgerow with trees                      | 0.238        | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Significance                  | 1                                   | Same distinctiveness<br>band or better        | 1.                     |
| 8               | Н7              | Native Hedgerow with trees                      | 0.013        | Low               | 2      | Good          | 3     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Significance                  | 1                                   | Same distinctiveness<br>band or better        | 0.0                    |
| 9               |                 | Line of Trees                                   | 0.353        | Low               | 2      | Poor          | 1     | Low                     | Unconnected habitat     | 1                          | Area/compensation not in local strategy/ no local<br>strategy | Low Strategic<br>Significance | 1                                   | Same distinctiveness<br>band or better        | 0.7                    |
| 10<br>11        |                 |   |              |                   |        |               |       |                         |                         | -                          |   |                               |                                     |   | $\vdash$               |
| 12              |                 |   |              |                   |        |               |       |                         |                         |                            |   |                               |                                     |   |                        |
| 13              |                 |   |              |                   |        |               |       |                         |                         |                            |   |                               |                                     |   |                        |
| 14              |                 | Total Site length/KM                            | 1.41         |                   |        |               |       |                         |                         |                            | l   |                               |                                     | Total Site baseline                           | $\vdash$               |

|                                 | Retention | category bio                  | diversity val | ue                |                   | Comr  | Comments          |  |  |  |  |  |
|---------------------------------|-----------|-------------------------------|---------------|-------------------|-------------------|---|-------------------|--|--|--|--|--|
| Length Length retained enhanced |           | Units Units retained enhanced |               | Length<br>lost    | Units lost        | Assessor comments   | Reviewer comments |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.027             | 0.162             |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.116             | 0.696             |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.212             | 1.272             |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.39              | 2.34              |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.038             | 0.228             |   |                   |  |  |  |  |  |
| 0.025                           |           | 0.3                           | 0             | Error in<br>Areas | Error in<br>Areas |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.238             | 1.428             |   |                   |  |  |  |  |  |
|                                 |           | 0                             | 0             | 0.013             | 0.078             |   |                   |  |  |  |  |  |
| 0.253                           |           | 0.506                         | 0             | 0.1               | 0.2               | Comprising broadleaved scattered trees at boundary line<br>and line of coniferous trees on site |                   |  |  |  |  |  |
|                                 |           |                               |               |                   |                   |   |                   |  |  |  |  |  |
|                                 |           |                               |               |                   |                   |   |                   |  |  |  |  |  |
| -                               |           |                               |               |                   |                   |   |                   |  |  |  |  |  |
| <b>—</b>                        |           |                               |               |                   |                   |   |                   |  |  |  |  |  |
| 0.28                            | 0.00      | 0.81                          | 0.00          | 1.13              | 6.40              |   |                   |  |  |  |  |  |
|                                 |           |                               |               |                   |                   |   |                   |  |  |  |  |  |

|                 |                                    | edp2425 Junction 9, M40, Bicester, Oxon ge Creation  / Show Columns  Condense / Show Rows |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
|-----------------|------------------------------------|---|----------------------------|-----------------|-------|-------------------|-------|-------------------------|---------------------|----------------------------|---|-------------------------------|-------------------------------------|--------------------------------|---------------------|------|--------------------------|--|-------------------|
|                 | Main Menu Instructions Multipliers |   |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
|                 |                                    |   | 2                          |                 |       |                   |       |                         |                     |                            | Spatial quality   |                               |                                     | T                              |                     |      |                          |  |                   |
|                 |                                    | Proposed habitats   | Habitat<br>distinctiveness |                 |       | Habitat condition |       | Ecological connectivity |                     |                            | Strategic significance  |                               |                                     | Temporali                      | Temporal multiplier |      |                          | Comments   |                   |
| Baseline<br>ref | New<br>hedge<br>number             | Habitat type  | Length<br>km               | Distinctiveness | Score | Condition         | Score | Ecological connectivity | Connectivity        | Connectivity<br>multiplier | Strategic significance  | Strategic<br>significance     | Strategic<br>position<br>multiplier | Time to target condition/years |                     |      | Hedge units<br>delivered | Assessor comments  | Reviewer comments |
| 1               |                                    | Native Species Rich Hedgerow  | 0.835                      | Medium          | 4     | Good              | 3     | Low                     | Unconnected habitat | 1                          | Area/compensation not in local strategy/ no<br>local strategy | Low Strategic<br>Significance | 1                                   | 10                             | 0.700               | 0.67 | 4.70                     | Native species rich hedgerow to be planted as part of landscaping. Good condition to be achieved through adherance to a habitat management plan incorporaiting a cyclicar hedgerow management regime aimed to promoting a diverse strucutre and species diversity, and protecting the hedgerow from adjacent land uses and damage. Buffer of a minimum of 1m to be maintained and managed for a diverse hedgerow ground flora with hedgerow ground flora seed mix sown in several locations. |                   |
| 2               |                                    | Native Hedgerow   | 0.411                      | Low             | 2     | Good              | 3     | Low                     | Unconnected habitat | 1                          | local strategy  | Low Strategic<br>Significance | 1                                   | 10                             | 0.700               | 1    | 1.73                     | Management as detailed above   |                   |
| 3               |                                    | Native Hedgerow with trees  | 0.646                      | Low             | 2     | Good              | 3     | Low                     | Unconnected habitat | 1                          | Area/compensation not in local strategy/ no local strategy    | Low Strategic<br>Significance | 1                                   | 20                             | 0.490               | 1    | 1.90                     | Management as detailed above   |                   |
| 4               |                                    |   |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
| 5               |                                    |   |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
| 6               |                                    |   |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
| 7               |                                    |   |                            |                 |       | <b>_</b>          |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
| 8               |                                    |   |                            |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      |                          |  |                   |
| 9               |                                    | Creation Length/KM  | 1.89                       |                 |       | <u> </u>          |       |                         |                     |                            | L   |                               |                                     |                                |                     |      | 8.33                     |  |                   |
|                 | L                                  | Creation Length/Kivi  | 1.09                       |                 |       |                   |       |                         |                     |                            |   |                               |                                     |                                |                     |      | 6.33                     |  |                   |



|   | Habitats and areas |                     |  |                    |                 | distinctiveness Habitat condition |           | Ecological connectivity |                         |                              | Strategic signil           |   | Ecological<br>baseline         |                                     |  |                        |
|---|--------------------|---------------------|--|--------------------|-----------------|-----------------------------------|-----------|-------------------------|-------------------------|------------------------------|----------------------------|---|--------------------------------|-------------------------------------|--|------------------------|
| [ | Baseline<br>ref    | Broad habitat       | Habitat type   | Area<br>(hectares) | Distinctiveness | Score                             | Condition | Score                   | Ecological connectivity | Connectivity                 | Connectivity<br>multiplier | Strategic significance  | Strategic significance         | Strategic<br>position<br>multiplier | Suggested action to address habitat<br>losses      | Total habitat<br>units |
|   | 1                  | Woodland and forest | Woodland and forest - Lowland mixed deciduous woodland | 0.36               | High            | 6                                 | Moderate  | 2                       | Medium                  | Moderately connected habitat | 1.1                        | Area/compensation not in local strategy/ no<br>local strategy | Low Strategic<br>Significance  | 1                                   | Same habitat required                              | 4.75                   |
|   | 2                  | Woodland and forest | Woodland and forest - Lowland mixed deciduous woodland | 0.44               | High            | 6                                 | Moderate  | 2                       | Medium                  | Moderately connected habitat | 1.1                        | Within area formally identified in local strategy             | High strategic<br>significance | 1.15                                | Same habitat required                              | 6.68                   |
|   | 3                  | Lakes               | Lakes - Ponds (Non- Priority Habitat)                  | 0.19               | High            | 6                                 | Moderate  | 2                       | Low                     | Unconnected habitat          | 1                          | Area/compensation not in local strategy/ no<br>local strategy | Low Strategic<br>Significance  | 1                                   | Same habitat required                              | 2.28                   |
|   | 4                  | Grassland           | Grassland - Modified grassland                         | 0.24               | Low             | 2                                 | Poor      | 1                       | Low                     | Unconnected habitat          | 1                          | Area/compensation not in local strategy/ no<br>local strategy | Low Strategic<br>Significance  | 1                                   | Same distinctiveness or better<br>habitat required | 0.48                   |
|   | 5                  |                     |  |                    |                 |                                   |           |                         |                         |                              |                            |   |                                |                                     |  |                        |
|   | 6                  |                     |  |                    |                 |                                   |           |                         |                         |                              |                            |   |                                |                                     |  |                        |
|   | 7                  |                     |  |                    |                 |                                   |           |                         |                         |                              |                            |   |                                |                                     |  |                        |
|   |                    |                     | Total site area ha                                     | 1.23               |                 |                                   |           |                         |                         |                              |                            |   |                                |                                     | Total Site baseline                                | 14.19                  |
|   |                    |                     |  |                    |                 |                                   |           |                         |                         |                              |                            |   |                                |                                     |  |                        |

| Retention category biodiversity value |                  |                 |                               |                               |                                 |                |                |  | Comments  |                   |  |  |  |
|---------------------------------------|------------------|-----------------|-------------------------------|-------------------------------|---------------------------------|----------------|----------------|--|---|-------------------|--|--|--|
| Area<br>retained                      | Area<br>enhanced | Area succession | Baseline<br>units<br>retained | Baseline<br>units<br>enhanced | Baseline<br>units<br>succession | Area lost      | Units lost     | compensation<br>agreed for<br>unacceptable<br>losses | Assessor comments   | Reviewer comments |  |  |  |
|                                       | 0.39             |                 | 0                             | 5.15                          | 0.00                            | Error in Areas | Error in Areas |  | Broadleaved woodland, within Blue Line Boundary                           |                   |  |  |  |
|                                       | 0.44             |                 | 0                             | 6.68                          | 0.00                            | 0.00           | 0.00           |  | Broadleaved woodland -Ancient Woodland, within Blue Line<br>Boundary      |                   |  |  |  |
|                                       | 0.19             |                 | 0                             | 2.28                          | 0.00                            | 0.00           | 0.00           |  | Pond within woodland, within Blue Line Boundary                           |                   |  |  |  |
|                                       | 0.24             |                 | 0                             | 0.48                          | 0.00                            | 0.00           | 0.00           |  | 15m buffer around woodland currently poor condition<br>improved grassland |                   |  |  |  |
|                                       |                  |                 |                               |                               |                                 |                |                |  |   |                   |  |  |  |
|                                       |                  |                 |                               |                               |                                 |                |                |  |   |                   |  |  |  |
| 0.00                                  | 1.26             | 0.00            | 0.00                          | 14.59                         | 0.00                            | 0.00           | 0.00           |  |   |                   |  |  |  |

edp2425 Junction 9, M40, Bicester, Oxon
D-3 Off Site Habitat Enhancment Post development/ post intervention habitats

Ecological
connectivity

Distinctiveness Condition Ecological
connectivity
connectivity
score Temporal multiplier Difficulty multipliers Strategic significance Spatial risk multiplier Baseline habitats Change in distinctiveness and condition Time to target condition/years Habitat units delivered Proposed habitat (Pre-Populated but can be overridden) Spatial risk category Condition change Strategic significance Reviewer comments Baseline habitat Assessor comments High - High 0.39 High High Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss 2 Moderate - Good 0.44 High Good Medium Within area formally identified in local strategy 20 High Woodland and forest - Lowland mixed deciduous woodland High - High Enhancement of woodland pond to be included woodland management plan to address indicators of poor condition including through improvements to diversity of marginal and aquatic plant species, removal of artificial drainage features. Area of improved grassland within 15m buffer of ancient woodland to be used to ehnance to good condition other neuatral grassland in buffer area ion inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss Lakes - Ponds (Non- Priority Habitat) 0.19 High Good Low Lakes - Ponds (Non- Priority Habitat) High - High Moderate - Good Low Compensation inside LPA or NCA, or deemed to be sufficiently local, to site of biodiversity loss ea/compensation not in local strategy/ no loc strategy 0.24 Medium Grassland - Modified grassland Grassland - Other neutral grassland Low - Medium Lower Distinctiveness Habitat - Good Good Low 15 Low

Total off-site area

Total site area

### **Plans**

Plan EDP 1 Baseline On-site and Off-site Habitats (edp2425\_d048a 01 July 2022 GY/CP)

Plan EDP 2 Detailed Landscape Proposals

(edp2425\_d017e 06 July 2022 LCH/BC)

Plan EDP 3 Post-development Habitats

(edp2425\_d049b 30 June 2022 GY)

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