Medworth Energy from Waste
Combined Heat and Power Facility

PINS ref. EN010110
Document Reference: Vol 6.4
Revision: 4
Deadline: 5
June 2023

# Environmental Statement Chapter 11 Biodiversity Appendix 11M Biodiversity Net Gain Assessment

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# Executive Summary

WSP (previously Wood Group UK Limited) has been commissioned by Medworth CHP Limited (the Applicant) to provide a biodiversity net gain (BNG) assessment for the development of an Energy from Waste Combined Heat and Power Facility at Wisbech, Cambridgeshire.

This report sets out the BNG assessment methods (using the Biodiversity Metric 3.0), the estimated BNG results calculated based on design information for the Proposed Development, and options to achieve BNG.

The calculated results are an early estimate of BNG for the Proposed Development as-designed, at the Development Consent Order submission stage. The BNG assessment would be refined and updated through detailed design and at the end of construction using as-built data of habitat clearance and landscaping.

The BNG assessment has included all land within the Order limits, and included no off-site habitat interventions. The post-intervention habitat creation and enhancement was based on the Outline Landscape and Ecology Strategy (OLES) for the Proposed Development. The OLES was designed to maximise the biodiversity benefit of the EfW CHP Facility Site while contributing to local strategic biodiversity objectives, while enhancement of third-party land within the Order limits is not expected to be feasible.

The results indicate that the Proposed Development as-designed would result in:

- An overall net loss of -9.98% in area-based habitat units, which equates to a loss of -3.63 units;
- A loss of -21.56% linear units, which equates to a loss of -1.02 linear units; and
- A loss of -11.85% in river units, which equates to a loss of -0.21 units.

In addition, the results fail ‘trading rules’ for the Medium distinctiveness habitats especially for scrub.

Additional off-site habitat intervention is therefore expected to be required to deliver BNG for the Proposed Development, but the mechanism for delivering this is yet to be defined. BNG modelling was therefore undertaken to identify potential habitat changes that could be undertaken off-site (in addition to those included on-site within the Order limits for the Proposed Development as-designed), to achieve an increase in area-based, linear and river biodiversity units while satisfying the trading rules.

In response to feedback from Cambridgeshire County Council (CCC) and the Middle Level Commissioners (MLC), off-site River units will be targeted at enhancing local water vole habitats within the Host Authority areas.

# Contents

# 1. Introduction

## 1.1 Background

1.1.1 Medworth CHP Limited (the Applicant) is applying to the Secretary of State for a Development Consent Order (DCO) to construct, operate and maintain an Energy from Waste (EfW) Combined Heat and Power (CHP) Facility on the industrial estate, Algores Way, Wisbech, Cambridgeshire. Together with associated Grid Connection, CHP Connection, Water Connections, and Temporary Construction Compound (TCC), these works are the Proposed Development.

1.1.2 The Proposed Development would recover useful energy in the form of electricity and steam from over half a million tonnes of non-recyclable (residual), non-hazardous municipal, commercial and industrial waste each year. The Proposed Development would have a generating capacity of over 50 megawatts and the electricity would be exported to the grid. The Proposed Development would also have the capability to export steam and electricity to users on the surrounding industrial estate.

1.1.3 The Proposed Development is a Nationally Significant Infrastructure Project (NSIP) under Part 3 Section 14 of the Planning Act 2008 (2008 Act) by virtue of the fact that the generating station is located in England and has a generating capacity of over 50 megawatts (section 15(2) of the 2008 Act). It requires an application for a DCO to be submitted to the Planning Inspectorate (PINS) under the 2008 Act. PINS will examine the application for the Proposed Development and make a recommendation to the Secretary of State (SoS) for Business, Energy and Industrial Strategy (BEIS) to grant or refuse consent. On receipt of the report and recommendation from PINS, the SoS will then make the final decision on whether to grant the Medworth EfW CHP Facility DCO.

1.1.4 The Applicant has provided a Biodiversity Net Gain assessment for the Proposed Development as part of the DCO submission, which is set out in this report. Biodiversity Net Gain is an approach for a development to achieve measurable net gains in biodiversity. It follows the 'mitigation hierarchy' process of first avoiding and minimising biodiversity loss and providing positive habitat intervention. This results in a net improvement to biodiversity. Biodiversity Net Gain is measured using a biodiversity metric, which in England is the Biodiversity Metric published by Natural England. This measures the net gains in 'biodiversity units' which are the 'currency' of the metric[1].

## 1.2 The Applicant and the project team

1.2.1 The Applicant is a wholly owned subsidiary of MVV Environment Limited (MVV). MVV is part of the MVV Energie AG group of companies. MVV Energie AG is one of Germany's leading energy companies, employing approx. 6,500 people with

[1] Natural England (2021). Biodiversity Metric 3.0, Auditing and accounting for biodiversity: user guide. Natural England Joint Publication JP039.

assets of around €5 billion and annual sales of around €4.1 billion. The Proposed Development represents an investment of approximately £450m.

1.2.2 The company has over 50 years' experience in constructing, operating, and maintaining EfW CHP facilities in Germany and the UK. MVV Energie's portfolio includes a 700,000 tonnes per annum residual EfW CHP facility in Mannheim, Germany.

1.2.3 MVV Energie has a growth strategy to be carbon neutral by 2040 and thereafter carbon negative, i.e., climate positive. Specifically, MVV Energie intends to:

- reduce its direct carbon dioxide ($CO_2$) emissions by over 80% by 2030 compared to 2018;
- reduce its indirect $CO_2$ emissions by 82% compared to 2018;
- be climate neutral by 2040; and
- be climate positive from 2040.

1.2.4 MVV's UK business retains the overall group ethos of 'belonging' to the communities it serves whilst benefitting from over 50 years' experience gained by its German sister companies.

1.2.5 MVV's largest project in the UK is the Devonport EfW CHP Facility in Plymouth. Since 2015, this modern and efficient facility has been using around 265,000 tonnes of municipal, commercial and industrial residual waste per year to generate electricity and heat, notably for Her Majesty's Naval Base Devonport in Plymouth, and exporting electricity to the grid.

1.2.6 In Dundee, MVV has taken over the existing Baldovie EfW Facility and has developed a new, modern facility alongside the existing facility. Operating from 2021, it uses up to 220,000 tonnes of municipal, commercial and industrial waste each year as fuel for the generation of usable energy.

1.2.7 Biomass is another key focus of MVV's activities in the UK market. The biomass power plant at Ridham Dock, Kent, uses up to 195,000 tonnes of waste and non-recyclable wood per year to generate green electricity and is capable of exporting heat.

1.2.8 To prepare the Environmental Statement (ES) for the Proposed Development, the Applicant has engaged WSP (previously Wood Group UK Limited (Wood)). WSP is registered with the Institute of Environmental Management and Assessment (IEMA)'s Environmental Impact Assessment (EIA) Quality Mark scheme. The scheme allows organisations that lead the co-ordination of EIAs in the UK to make a commitment to excellence in their EIA activities and have this commitment independently reviewed.

1.2.9 The Biodiversity Net Gain assessment of the Proposed Development has been led by Dr Julia Baker MCIEEM (Biodiversity Net Gain Technical Director) and Mark Wilkinson MCIEEM (Ecology Associate Director) with baseline data collection and technical work by Will Horlock (Consultant Ecologist). The team has extensive experience of delivering Biodiversity Net Gain assessments.

## 1.3 Description of the Proposed Development

1.3.1 The Order limits[2] (see **Environmental Statement Figure 1.1 (Volume 6.3)**) are the boundary of the Proposed Development used within this BNG assessment.

1.3.2 A summary description of each Proposed Development element is provided below. A more detailed description is provided in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)** of the ES. A list of terms and abbreviations can be found in **Chapter 1 Introduction, Appendix 1F Terms and Abbreviations**:

- **EfW CHP Facility Site:** A site of approximately 5.3ha located south-west of Wisbech, located within the administrative areas of Fenland District Council and Cambridgeshire County Council. The main buildings of the EfW CHP Facility would be located in the area to the north of the Hundred of Wisbech Internal Drainage Board (HWIDB) drain bisecting the site and would house many development elements including the tipping hall, waste bunkers, boiler house, turbine hall, air cooled condenser, air pollution control building, chimneys and administration building. The gatehouse, weighbridges, 132kV switching compound and laydown maintenance area would be located in the southern section of the EfW CHP Facility Site.
- **CHP Connection:** The EfW CHP Facility would be designed to allow the export of steam and electricity from the facility to surrounding business users via dedicated pipelines and private wire cables located along the disused March to Wisbech railway. The pipeline and cables would be located on a raised, steel structure.
- **TCC:** Located adjacent to east of the EfW CHP Facility Site, the compound would be used to support the construction of the Proposed Development. The compound would be in place for the duration of construction.
- **Access Improvements:** Includes access improvements on New Bridge Lane (road widening and site access) and Algores Way (relocation of site access 20m to the south).
- **Water Connections:** A new water main connecting the EfW CHP Facility into the local network will run underground from the EfW CHP Facility Site along New Bridge Lane before crossing underneath the A47 (open cut trenching or horizontal directional drilling (HDD)) to join an existing Anglian Water main. An additional foul sewer connection is required to an existing pumping station operated by Anglian Water located to the northeast of the Algores Way site entrance and into the EfW CHP Facility Site.
- **Grid Connection:** This comprises a 132kV electrical connection using underground cables. The Grid Connection route begins at the 132kV switching compound in the EfW CHP Facility Site and runs underneath New Bridge Lane, before heading north within the verge of the A47 to the Walsoken Substation on Broadend Road. From this point the cable would be connected underground to the Walsoken DNO Substation.

[2] The 'Order limits' encompasses the proposed limits of deviation within which the Proposed Development would be carried out.

## 1.4 Ecological context

1.4.1 An ecological desk study, baseline habitat and species surveys, and an Ecological Impact Assessment (EcIA) have been undertaken to inform the Proposed Development. The methodology and results of the EcIA are presented **Chapter 11: Biodiversity** (**Volume 6.2**) and baseline surveys in the accompanying **Appendices 11D-L** (**Volume 6.4**). The results of the baseline surveys have been used to inform this BNG assessment of the Proposed Development and should be read in conjunction with this report.

1.4.2 The Proposed Development is located at the southern edge of Wisbech, with the surrounding land use consisting predominantly of industrial, urban/residential, and mixed agriculture. There are no statutory or non-statutory designated biodiversity sites within the Order limits. Habitat within the EfW CHP Facility Site consists largely of existing commercial development and bare ground, and is bisected by a wet ditch, and bounded in part by ditches, hedgerow, treelines and scrub. Habitat on the TCC is dominated by grassland and occasional stands of scrub. The CHP Connection is dominated by scrub habitat, with smaller areas of habitat including grassland and plantation woodland. The Access Improvements, Water Connections and Grid Connection are largely restricted to existing hardstanding roads and immediately adjoining verges, with small areas of adjacent habitat including ditches, grassland and commercial orchard.

## 1.5 Policy context of Biodiversity Net Gain

1.5.1 The Overarching National Policy Statement (NPS) for Energy EN-1 was adopted in 2011 and it does not make explicit reference to BNG. Similarly, NPS EN-3 Renewable Energy and EN-5 Electricity Networks, which were also adopted at the same time, do not make reference to biodiversity net gain.

1.5.2 In September 2021 government published the Draft NPS EN-1 for consultation. Section 4.5 Environmental and Biodiversity Net Gain sets out the government's draft policy as it applies to NSIPs. It notes that delivery is not an obligation but that projects should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity where possible.

1.5.3 Government also issued a Draft NPS EN-3 and EN-5 in September 2021. The no explicit reference is made to BNG in the context of waste combustion. Advice on the specific opportunities provided by linear electricity networks infrastructure is provided in section 2.8 of Draft NPS EN-5.

1.5.4 In March 2023 the Secretary of State consulted upon a set of revised draft national policy statements. Relevant to the Proposed Development are:

- Revised Draft NPS EN-1 The Overarching National Policy Statement for Energy.
- Revised Draft NPS EN-3 The National Policy Statement for Renewable Energy Infrastructure.
- Revised Draft NPS EN-5 The National Policy Statement for Electricity Networks Infrastructure.

1.5.5 A summary of compliance against the revised draft NPS is set out in the **NPS Accordance Tracker (Volume 9.18) [REV2]** submitted at Deadline 3.

1.5.6 The National Planning Policy Framework for England can be a material consideration to the assessment of the DCO application. It makes clear that development should achieve Biodiversity Net Gain ("BNG"). The Framework states in section 15, paragraph 174 (d) that development should contribute to enhancing the natural environment by 'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'.

1.5.7 The Environment Act 2021 will mandate development projects under the Town and Country Planning Act 1990 to achieve BNG. This is expected to come into force in 2023. The Act also introduces mandatory BNG for NSIPs, and this is expected to come into force in 2025.

1.5.8 Mandatory BNG will be measured by the biodiversity metric published by the Secretary of State, which is expected to be a revision of the current Biodiversity Metric V4.0 published by Natural England[3]. Mandatory BNG is defined in numerical terms as a minimum 10% increase in each of the three types of habitat within the biodiversity metric: area-based habitat units; linear units; and, river units.

1.5.9 Biodiversity Metric V4.0 was published in March 2023 as an update to previous metrics. The first was introduced by Defra as a "Biodiversity Offsetting Metric" in 2012 as part of its pilot on biodiversity offsetting[4]. This metric has since been expanded and improved by Natural England and is now published as the Biodiversity Metric V4.0[3].

1.5.10 The BNG assessment of the Proposed Development commenced using Biodiversity Metric 3.0, prior to the release of V3.1 in April 2022, and V4.0. With regards to the differences between V3.1 and V3.0, the V3.1 Summary of Changes document[5] states that "*Metric 3.1 represents a relatively small-scale change from version 3.0, primarily focusing on clarifications to guidance and revisions to the condition assessments. Except for a very small number of select habitats, the metric 3.1 update is unlikely to have a significant impact on the range of overall outputs generated*", while the V4.0 Summary of Changes[6] states that "*the majority of changes are focused on providing an enhanced user experience and are unlikely to have significant impact on the range of outputs generated*". For consistency, Natural England advises that "*Users of previous versions of the Biodiversity Metric should continue to use that metric (unless requested to do otherwise by their client or consenting body) for the duration of the project it is being used for. This is because users may find that certain biodiversity unit values generated in biodiversity metric*

[3] Natural England (2023). The Biodiversity Metric 4.0, Joint Publication JP039.
[4] Defra (2012). Biodiversity Offsetting Pilots; Technical Paper: the metric for the biodiversity offsetting pilot in England. (online).
[5] Natural England (2022). The Biodiversity Metric 3.1: Auditing and accounting for biodiversity; Summary of Changes from Biodiversity Metric 3.0 to Version 3.1. Natural England Joint Publication JP039.
[6] Natural England (2023). Summary of Changes: The Biodiversity Metric Version 3.1 to 4.0. Natural England Joint Publication JP039.

*4.0 will differ from those generated by earlier versions.*"[7], and the BNG assessment presented within this report was based on V3.0 on this basis (see **Section 2.1**).

1.5.11 In 2016, leading professional environmental institutes within the UK published Good Practice Principles for the assessment and delivery of BNG[8]. These ten principles are to be applied as a whole set of principles, and were published with the aim to provide a framework for developers to design and deliver BNG based on good practice.

## 1.6 Purpose of this report

1.6.1 This report presents the BNG assessment undertaken of the Proposed Development using Biodiversity Metric 3.0 and the accompanying Biodiversity Metric 3.0 Calculation Tool[9]. It provides an overview of the Proposed Development's ecological context (**Section 1**); the approach and methodology used for the BNG assessment (**Section 2**); presents the results of the BNG assessment for the Proposed Development 'as designed' and the modelling of scenarios for providing the intended level of BNG (**Section 3**); it provides recommendations on the next steps and mechanisms for delivering BNG (**Section 4**).

The report is set out in terms of:

- **Baseline:** Describing the baseline of habitat within the Order limits prior to the Proposed Development (including the types, quality and quantities of habitats present, and how many biodiversity units they generate).
- **Impacts:** The impact against the baseline due to construction of the Proposed Development and other associated activities (including the types, quality and quantities of habitats lost, retained or enhanced, and the associated deficit in biodiversity units); and
- **Post-intervention:** Describing the proposed habitat enhancement/restoration and creation that would contribute to providing BNG following completion of the Proposed Development (including the types, quality and quantities of habitat gained through enhancement/restoration and creation, and the net change in biodiversity units compared to the baseline).

[7] Natural England Biodiversity Metric 4.0 homepage. (online) Available at: [redacted] (Accessed 21/04/2023).
[8] Baker, J. (2016). Biodiversity net gain good practice principles for development. CIEEM, IEMA, CIRIA, UK.
[9] Natural England (2021). The Biodiversity Metric 3.0: Auditing and accounting for biodiversity; Calculation Tool.

# 2. Methodology

## 2.1 Biodiversity Metric 3.0

2.1.1 The Biodiversity Metric 3.0 was developed by Natural England and published in July 2021. It is a tool to measure and account for habitat loss and gain resulting from development, and to demonstrate the achievement of BNG. As outlined in **Section 1.5**, V3.0 was superseded by V3.1 in April 2022 and by V4.0 in March 2023, however since BNG data collection commenced in 2021 based on the habitat condition assessments from V3.0, this BNG assessment continued to use V3.0. Application of Biodiversity Metric 3.0 for this assessment followed guidance within the Natural England user guide[1] technical supplement[10].

2.1.2 The biodiversity metric is based on habitat data: the extent of habitat (measured in hectares (ha) or kilometres (km) depending on whether the habitat is linear or not), and key measures of habitat quality including how distinctive it is (i.e., its complexity, rarity, diversity etc.), its condition (with regards to nature conservation) and its strategic location with respect to conservation priorities (its 'strategic significance'). These elements are scored within the biodiversity metric to generate "biodiversity units" at the baseline stage (before development commences) and post-intervention stage (after a development is complete) and apply to on-site and off-site habitats.

2.1.3 Measures of habitat quality including distinctiveness, habitat condition and strategic significance (see subsequent sections) are each positively correlated to the number of biodiversity units yielded for a given habitat parcel. Additional unit modifiers apply to river habitats including the level of encroachment within the riparian zone for rivers, and within the watercourse for all river habitats, at the baseline and post-intervention stages.

2.1.4 The biodiversity metric compares the biodiversity units from the baseline and post-intervention stages to determine the percentage net change, which accounts for direct losses of habitat for a development, and the gains from proposed habitat enhancement/restoration and/or creation.

2.1.5 The biodiversity value of the gains is refined based on risk multipliers that account for the difficulty of habitat creation (e.g., creating a semi-improved grassland can be of a lower risk than creating an active raised bog), the time it takes for a habitat to reach target condition from the date of habitat clearance, and the location of delivery when off-site within an ecological network.

2.1.6 The calculation of biodiversity units (including losses/gains) for the Proposed Development was undertaken using the Biodiversity Metric 3.0 Calculation Tool[9] and associated guidance[11], which deals with three types of biodiversity units separately:

[10] Natural England (2021). The Biodiversity Metric 3.0: auditing and accounting for biodiversity; Technical Supplement. Natural England Joint Publication JP039.
[11] Natural England (2021). The Biodiversity Metric 3.0: auditing and accounting for biodiversity; Calculation Tool: Short Guide. Natural England Joint Publication JP039.

- **Area-based units** (Section A of Biodiversity Metric 3.0): the subsection of area-based terrestrial and aquatic habitat types above the mean-water mark (measured in ha) within the Biodiversity Metric 3.0, including, for example, grassland, woodland, lakes and ponds, cropland and urban habitats amongst others;
- **Linear units** (Section B of Biodiversity Metric 3.0): the subsection of linear terrestrial habitats (measured in km) within the Biodiversity Metric 3.0, that comprise lines of tree and hedgerow habitats; and
- **River units** (Section C of Biodiversity Metric 3.0): the subsection of linear aquatic habitats (measured in km) within the Biodiversity Metric 3.0, including main rivers, other rivers and streams, canals, ditches and culverts.

2.1.7 An important rule of the Biodiversity Metric 3.0 is that the three types of biodiversity units described above (area-based/linear/river) are unique and cannot be summed, traded or converted. When reporting biodiversity gains or losses, the three different biodiversity unit types must be reported separately and not summed to give an overall biodiversity unit value. Each habitat type must independently attain the percentage biodiversity gain required.

2.1.8 The Biodiversity Metric 3.0 is applied according to a set of principles that include:

- Adherence to the mitigation hierarchy (i.e., avoid, mitigate, compensate, and, as a last resort, offset residual biodiversity loss).
- The exclusion of statutory designated sites and irreplaceable habitats (such as ancient woodland) from BNG calculations (highlighting the critical importance of avoiding negative impacts). It also accounts for the conservation works of designated sites (usually being secured through a management agreement).
- Achieving net gains through the “like for like or better” principal such as removal of woodland requires replacement of woodland habitat, as opposed to replacement with grassland or other habitats).

2.1.9 When the Government introduces mandatory BNG, the expectation is that a market will emerge for developers to purchase off-site biodiversity units. For example, when BNG measures within a development boundary are insufficient to achieve the minimum increase, developers could purchase units provided by others in a financial transaction so long as these units adhere to the mandatory requirements of the biodiversity metric. In England, it is understood that these units would be registered by Natural England and require monitoring and suitable methods of securing their management for an agreed timescale for the future.

2.1.10 Where BNG is provided as part of a development, there is an expectation that this would be maintained for a minimum of 30-years (i.e., managed to maintain the type, extent and quality/condition of habitats included within the BNG provision).

## 2.2 Baseline

### Data collection and mapping

2.2.1 BNG baseline data collection was based on an ecological desk study and extended Phase 1 habitat survey of land within the Order limits of the Proposed Development, undertaken during 2020/21. The survey methodology followed the standard Phase 1 habitat survey guidelines[12] to record and map, and the detailed methodology and timing is provided in **Appendix 11.D Ecological Desk Study and Extended Phase 1 Habitat Survey (Volume 6.4)**.

2.2.2 It is noted that the BNG baseline comprised all land within Order limits.

2.2.3 During the Phase 1 habitat survey, all distinct habitats within the Order limits were identified and mapped digitally during fieldwork using the ArcGIS Collector app on a tablet computer. The tablet computer's GPS function and aerial imagery in the Collector app were used to spatially identify and record the boundaries of each habitat parcel. Additional information on the habitats was recorded as target notes where relevant. An individual habitat parcel was recorded for each discrete block of a given habitat type in a given condition. Where habitat composition or condition varied appreciably, the variation was mapped as different habitat parcels.

2.2.4 Field data was transferred from the ArcGIS Collector app to ArcGIS ArcMap version 10.8.1 on a desk top computer, to undergo a process of data quality assurance and refinement of geospatial accuracy against the inbuilt Ordnance Survey base map and aerial imagery.

2.2.5 The measurements of area and length attained for the baseline data were measured automatically by ArcMap, from the associated polygon and linear features mapped within the GIS system. Biodiversity Metric 3.0 does not specify a Minimum Mappable Unit (MMU) but recommends that a proportionate approach should be taken to avoid recording large areas that are likely to vary in terms of habitat condition as one habitat parcel, and avoid recording insignificant areas of habitat which cover less than $1m^2$ (0.0001ha)[1]. Therefore, an MMU was set at $25m^2$ for area-based habitats and 1m for linear habitats[13], and baseline data was measured and entered into the Biodiversity Metric 3.0 Calculation Tool at an accuracy of three decimal places to capture the chosen MMU.

2.2.6 As individual trees are classed as area-based habitats within Biodiversity Metric 3.0, the 'urban tree helper' within the calculation tool was used to determine the habitat area of each tree to enable entry into the metric.

2.2.7 All baseline habitat data included within the BNG assessment is for on-site habitats (i.e., within the Order limits); no off-site habitat baseline was included in the BNG assessment.

[12] Joint Nature Conservation Committee (JNCC) (2010). Handbook for Phase 1 Habitat Survey: a Technique for Environmental Audit. JNCC; Peterborough, UK.

[13] This reflects that the Access Improvements associated with the Proposed Development would affect short sections of linear watercourse habitat in places due to extending existing culverts.

## Translation of habitat types for use in Biodiversity Metric 3.0

2.2.8 Biodiversity Metric 3.0 and the associated calculation tool operate using a specific list of habitat types, which is most closely aligned with Level 4 in the UK Habitat Classification system (UKHab). The baseline habitat survey data was collected and classified using the Phase 1 habitat survey methodology, therefore it was necessary to translate the Phase 1 habitat types into UKHab habitat types for use in Biodiversity Metric 3.0. This translation was carried out using professional judgement, using as references the Phase1/UKHab translation tool provided under the Technical Data tab within the Biodiversity Metric 3.0 Calculation Tool, as well as the Habitat Definitions tab within the Biodiversity Metric 3.0 Condition Assessment Sheets[14].

## Measures of habitat quality

2.2.9 Biodiversity Metric 3.0 uses key measures of habitat quality to adjust the baseline biodiversity units proportionate with the quality of each habitat parcel. Some of these measures are user-defined (based on data, assessment and professional judgement), while others are preassigned by the biodiversity metric (with rationale defined in the guidance[1,10]). The methodology used in applying these measures to the baseline habitat data is described in the following sections.

### *Habitat distinctiveness*

2.2.10 Each Biodiversity Metric 3.0 habitat type is pre-assigned a distinctiveness band which is a measure of habitat quality, relating to the distinguishing features of a habitat type such as rarity, conservation status and species assemblage. Habitat distinctiveness was preassigned by Biodiversity Metric 3.0 based on habitat type.

2.2.11 Very high distinctiveness habitat types require bespoke assessment and compensation required as no losses are permitted within Biodiversity Metric 3.0.

### *Habitat condition*

2.2.12 The condition assessment of the habitat parcels was undertaken using the Biodiversity Metric 3.0 Condition Assessment Sheets[14], following the guidance in the introductory section of the condition assessment sheets and the supporting technical supplement[10].

2.2.13 The Biodiversity Metric 3.0 Condition Assessment Sheets provide a structured condition assessment process for each broad habitat type within the biodiversity metric. For a given habitat type, the condition assessment sheets include a range of criteria relating to the overall "*biological working order of a habitat type, judged against the perceived ecological optimum state*"[10]. This habitat condition assessment applies to variation in quality within each habitat type, rather than between habitat types.

[14] Natural England (2021). The Biodiversity Metric 3.0: auditing and accounting for biodiversity; Condition assessment sheets (Excel format).

2.2.14 For a given habitat parcel/type, each criterion assessed as part of the condition assessment was scored on a 'pass' or 'fail' basis[15], with the overall level of habitat condition determined as poor, moderate or good based on the number of criteria which are passed (or as fairly poor or fairly good in exceptional circumstances where the assessed level of condition does not fit poor/moderate/good)[14]. Habitat condition assessments for certain habitat types include non-negotiable criteria, which must be passed to achieve good condition.

2.2.15 Biodiversity Metric 3.0 does not require a condition assessment for certain broad habitat types, for which a condition score is pre-assigned in the biodiversity metric. These tend to be habitats that are intensively managed (e.g., croplands) or artificial (e.g., green roof).

2.2.16 Following this process, the condition assessment sheets were used to determine the habitat condition of each habitat parcel of relevant habitat types recorded in the baseline, within the Order limits. Information relevant to each criterion was recorded during baseline data collection field surveys supported by additional field surveys during the period September to October 2021 to collect further detailed information where necessary. A justification of the outcome was recorded for each criterion assessed. The overall habitat condition was calculated post-survey, along with a process of quality assurance.

### *Strategic significance*

2.2.17 In broad terms, strategic significance recognises 'the right habitat type in the right place'. The highest score relates to the spatial location of each habitat parcel (in landscape terms) with respect to formally identified local and regional priorities for targeting biodiversity conservation and enhancement. Local and regional priorities usually relate to strategically protecting, enhancing, expanding and connecting existing habitats, green infrastructure and other biodiversity resources, and are published in various documents including local Biodiversity Action Plans, local plans, biodiversity opportunity areas, conservation target areas and so on.

2.2.18 The medium score of strategic significance is when the location of a habitat is not identified within a local or regional conservation plan, although has significant ecological value such as providing a critical ecological function e.g., buffering habitat, connecting habitat, stepping stones etc.

2.2.19 For habitats within a development site, the level of strategic significance may vary within the site depending on the formally mapped location of conservation priorities and the ecological functions of the habitats.

2.2.20 The Environment Act will require Local Nature Recovery Strategies to be provided for all areas of England, which will help identify the strategic significance of each area. However, as these are not yet available, justification is based on available published local strategies and objectives.

[15] The condition assessments for woodland and intertidal habitats are an exception to this approach, where individual criterion are scored points 1=poor, 2=moderate or 3=good, with the scores summed and compared against score thresholds to determine the overall habitat condition.

2.2.22 Within Biodiversity Metric 3.0 one of the following significance levels[1] are attributed to each habitat parcel for area-base and linear habitats:

- High significance – high potential; location/action formally identified in local strategy, plan or policy.
- Medium significance – good potential; location is ecologically desirable but not in local strategy, plan or policy.
- Low significance – low potential; not identified in a local strategy, plan or policy.

2.2.23 River habitats are assigned either high or low strategic significance in Biodiversity Metric 3.0 based the following:

- High significance – Delivery of river restoration actions within a Local Plan, River Basin Management Plan, Catchment Plans, Catchment Planning System, or Priority Habitats for Restoration.
- Low significance – Low potential; action not identified in any plan.

2.2.24 A desk study exercise was undertaken in July 2022 to determine the level of strategic significance of each habitat parcel within the Order limits, for the baseline and post-intervention stages. The following sources were reviewed:

- **Cambridgeshire Green Infrastructure Strategy[16] and accompanying appendices[17]:** The Proposed Development is located with the broad green infrastructure area of Strategic Area 1: River Nene, within the Target Area for Wisbech. However, biodiversity is not listed as a green infrastructure theme for this target area, and the accompanying mapping shows no strategic green infrastructure assets or opportunity areas relevant to biodiversity in the vicinity of the Proposed Development.
- **Fenland Local Plan adopted 2014[18]/ Fenland Local Plan Policies Map 2014[19]:** Fenland Local Plan includes policy relating to biodiversity conservation and enhancement, but the Proposed Development does not fall within any relevant areas included on the associated polices maps.
- **West Norfolk Ecological Network Mapping Project report[20] and map[21]:** Identifies that parts of the Grid Connection fall within Orchard Core Area and Wetland Habitat Enhancement Zone. However, the habitat types present within the Order limits in these areas do not relate to these categories.

[16] Cambridgeshire County Council (2011). Cambridgeshire Green Infrastructure Strategy. (online) Available at: https://www.cambridge.gov.uk/media/2557/green-infrastructure-strategy.pdf (Accessed 01/07/2022).
[17] Cambridgeshire County Council (2011). Cambridgeshire Green Infrastructure Strategy - Appendices. (online) Available at: https://www.cambridge.gov.uk/media/2558/green-infrastructure-strategy-appendices.pdf (Accessed 01/07/2022)
[18] Fenland District Council (2014). Fenland Local Plan. (online) Available at: https://www.fenland.gov.uk/media/10010/Fenland-Local-Plan-May-2014/pdf/Fenland_Local_Plan1.pdf?m=637261883246530000 (Accessed 01/07/2022).
[19] Fenland District Council (2014). Fenland Local Plan Policies Map. (online) Available at: https://www.fenland.gov.uk/media/12294/Fenland-Local-Plan-2014-Policies-Map/pdf/PoliciesMap_A0_Adopted_New.pdf?m=637261874268430000 (Accessed 01/07/2022).
[20] Ecological Network Topic Group (2007). West Norfolk District Ecological Network Mapping. (online) Available at: https://www.norfolkbiodiversity.org/assets/Uploads/West-Norfolk-ecological-net-report-2007.pdf (Accessed 01/07/2022).
[21] West Norfolk Ecological Network Map. (online) Available at: https://www.west-norfolk.gov.uk/download/downloads/id/58/west_norfolk_ecological_network_map.pdf (Accessed 01/07/2022).

- **Norfolk Green Infrastructure Mapping Project report[22] and ecological network maps[23]:** A series of ecological network maps (including separate network maps for grassland and heathland, woodland and wetland habitat, and broad ecological corridors) to inform the Local Plans of the Local Planning Authorities in the county. The mapping resolution is coarse and of limited value in identifying detailed locations of green infrastructure assets in the vicinity of the Proposed Development and does not identify any obvious features of relevance.

2.2.25 The desk study sources reviewed did not identify baseline habitat parcels in any strategically significant locations identified within a local plan, strategy or policy, therefore all parcels were assigned low significance.

## Unit modifiers

2.2.26 Biodiversity Metric 3.0 applies additional unit modifiers to river habitats (before and after works) to account for levels of riparian zone and watercourse encroachment existing before and then by a development, reducing biodiversity units based on the level of encroachment.

2.2.27 In Metric 3.0, the riparian zone is defined as a 10m zone from the top of a riverbank. In accordance with the Natural England approach for Biodiversity Metric 3.0, a riparian zone is the interface between land and rivers/streams and so is only associated with rivers or streams in the metric (and not ditches from man-made drainage systems or canals). The riparian zone encroachment unit modifier accounts for the level of reduction in quality or quantity of riparian habitat, and the use of available habitat that forms a specific ecological function for riparian or aquatic species. The level of encroachment is identified on a scale of 'no encroachment/minor/moderate/major' based on criteria set out in the Biodiversity Metric 3.0 user guide[1].

2.2.28 The watercourse encroachment unit modifier accounts for interventions that adversely affect a watercourse in terms of hydrological or geomorphological processes, which result in localised changes in habitat, species and the use of migratory pathways. The level of encroachment is identified on a scale of 'no encroachment/minor/major' based on criteria set out in the Biodiversity Metric 3.0 user guide[1]. This unit modifier does not apply to existing culverts within the baseline and, for this assessment, would considered applicable to the post-intervention stage where proposed culverts would influence the watercourse upon creation in order to represent worst-case impacts.

2.2.29 The riparian zone and watercourse unit modifiers were applied to each baseline river habitat parcel, with the level of encroachment identified from habitat data collected during surveys of watercourse habitat (namely the Phase 1 habitat survey, water vole surveys, **Appendices 11D and 11-I (Volume 6.4)** respectively) and identified in line with the criteria set out in the user guide[1].

[22] Norfolk County Council (2018). Norfolk Green Infrastructure Mapping Project Report. Report No: R/100/002.
[23] Norfolk County Council (2018). Norfolk Green Infrastructure Mapping Project Report; Ecological Network and Opportunity Maps. (online) Available at: [redacted] Accessed 01/07/2022).

## Data entry and calculation of baseline biodiversity units

2.2.30 To prepare the baseline data for entry into the Biodiversity Metric 3.0 Calculation Tool, a master dataset was compiled in ArcGIS ArcMap. For each individual habitat parcel identified, this included the broad habitat/habitat type and its area, the outcome of the habitat quality measures and unit modifiers that are user-defined, and relevant assessor comments such as which part of the Proposed Development the habitat parcel related to and brief notes on how the parcel would be impacted (i.e., lost or retained)[24].

2.2.31 Following a final quality assurance check, data was added into the calculation tool for area-based, linear and river habitats, with each habitat parcel added as a separate row in a logical order based on components of the Proposed Development.

2.2.32 At this stage, the calculation tool produced a baseline biodiversity unit value for each separate habitat parcel.

## Constraints and assumptions

### *Proposed Development design options*

2.2.33 Two design options are being considered for the Water Connection to cross the A47, using either open cut trenching along existing roads, or horizontal directional drilling (HDD) beneath the carriageway of the A47 which would require an HDD compound within an area of adjacent commercial orchard. For the purposes of this BNG assessment, the latter design option was assumed as a reasonable worst-case scenario resulting in the largest impact in terms of biodiversity loss, predominantly because of the temporary land take associated with the HDD compound. The baseline and BNG assessment should then be refined based on the detailed design.

### *Access*

2.2.34 Approximately 0.11ha of the habitat within the Order limits could not be surveyed because of access constraints such as impenetrably dense vegetation or unsafe access along roadsides. In these areas, habitats and their conditions were assumed as a realistic worse-case scenario (i.e., of the highest value in the biodiversity metric), so the on-site baseline may slightly over represent the actual baseline habitats and/or conditions. These decisions were informed by assessment of similar adjoining or nearby habitat, satellite imagery, and general knowledge of the local area.

### *Mapping tolerances*

2.2.35 ArcGIS ArcMap version 10.8.1 uses an ‘x,y tolerance’ default precision level of 0.001 metres; the minimum distance between coordinates before they are considered equal. The habitat polygons and linear features were clipped to the Order limits boundary so that only habitats within the limits were included in this

[24] Note that components of the Proposed Development, such as ‘Access Improvements’, include the proposed limits of deviation within which the Proposed Development would be carried out. Therefore, whilst the relevant component of the Proposed Development is listed in the assessor comments, not all habitat would be impacted and some parcels are thus also listed as ‘retained’ despite falling within a development component.

BNG assessment. This tolerance difference can create very small differences between the area of the Order limits and the total area of the baseline habitat polygons.

## 2.3 Impacts and post-intervention

### Impacts

2.3.1 The Biodiversity Metric 3.0 Calculation Tool identifies the impact of the Proposed Development in terms of the area of habitat lost or retained (which are linked to the duration of the impact) or enhanced. This can apply to the whole of a habitat parcel, or part of it.

2.3.2 The calculation tool uses area data entered for each habitat parcel to calculate what proportion of the baseline biodiversity units would be retained, lost, or enhanced. This is calculated before the post-intervention stage (i.e., prior to proposed habitat enhancement/restoration and creation measures being factored into the calculation).

2.3.3 The impact of the Proposed Development on each habitat parcel was determined based on information from **Chapter 3: Description of the Proposed Development (Volume 6.2)** about activities associated with land take/land use change, and their timing/duration. Additional information was taken from the EcIA in **Chapter 11: Biodiversity (Volume 6.2)** to consider the sensitivity of habitat types and the effect of potential environmental changes above those associated with typical land management practices.

2.3.4 The extent of habitat parcels impacted was identified using ArcGIS ArcMap software by overlaying the baseline habitat data within the Order limits with GIS data[25] showing the footprint of components of the Proposed Development. The measurements of area and length attained for impacted habitat parcels were measured automatically by ArcMap, from the associated polygon and linear features mapped within the GIS system.

2.3.5 The impact on each habitat parcel was identified in terms of either (entirely or partially) being lost, retained or enhanced using the approach in **Table 2.1** Site habitat baseline for Proposed Development **Site habitat baseline for Proposed Development** in accordance with guidance[1].

**Table 2.1 Site habitat baseline for Proposed Development**

| Activity/duration | Lost | Retained | Enhanced |
|---|---|---|---|
| **No loss/damaging activity; habitat unchanged** | | Habitat retained | |
| **No loss/damaging activity; habitat to be enhanced** | | | Habitat retained to be enhanced |

[25] These datasets were derived from a combination of ArcGIS ArcMap and Autodesk AutoCAD files relating to the design of the Proposed Development provided by the Applicant and project design team, with the latter being imported into ArcMap.

| Activity/duration | Lost | Retained | Enhanced |
|---|---|---|---|
| **Temporary loss/damaging activity; habitat fully reinstated to target condition within 2 years** | | Habitat treated as retained | |
| **Temporary loss/damaging activity; habitat reinstated to target condition in over 2 years** | Habitat treated as lost (reinstatement treated as 'creation' at the post-intervention stage) | | |
| **Permanent loss** | Habitat lost | | |

## Post-intervention

### *Habitat creation and enhancement: as-designed*

2.3.6 Certain components of the Proposed Development (the Access Improvements, Water Connections, Grid Connection, CHP Connection and TCC) are located on third-party land. In these areas, where habitat reinstatement will take place following temporary construction activities, it is understood that this would be undertaken on a like-for-like basis only; to reinstate habitat back to its original type and condition[26]. These areas are noted in the assessor's comments in the Biodiversity Metric 3.0 Calculation Tool.

2.3.7 Information on habitat creation was taken from the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** (OLES) for land within the EfW CHP Facility Site that will be under the control of the Applicant. The OLES was designed around the good practice principles for BNG[8], including compensating habitat losses on a like-for-like basis or providing habitat of greater biodiversity benefit, enhancing ecological connectivity, contributing to local conservation priorities, and designing habitats to be resilient to factors such as climate change.

2.3.8 All post-intervention habitat change included in the BNG assessment for the Proposed Development, as-designed, is for on-site habitat within the Order limits. It consists of proposed habitat creation, with no proposed habitat enhancement. This is because all areas of retained habitat are either within third-party landownership or management where the Applicant cannot practicably deliver habitat enhancements, or retained habitats were in such condition that significant enhancements are not viable.

2.3.9 Habitat creation was designed with regard for the measures of habitat quality and the habitat distinctiveness trading rules outlined in the following sections. Selection

[26] Good practice BNG is to achieve net gains that are commensurate to the Proposed Development's residual biodiversity impacts. Achieving BNG on third party land is often not feasible due to the management requirements required to attain BNG over the 30-year period. In this circumstance, the restoration of habitats on third party land will be replaced like-for-like and assigned the same habitat and condition as the baseline. If suitable third-party land was to become available for helping to achieve BNG, new habitat creation or enhancing of existing habitat would contribute towards the Proposed Development's net gain.

of the proposed habitat types and planting regimes were based on appropriate target habitat conditions and designed to be strategically significant where possible.

2.3.10 The OLES was designed using Autodesk AutoCAD software to accurately design the habitat enhancement and creation measures around the Proposed Development infrastructure at the EfW CHP Facility Site. The measurements of area and length attained for the post-intervention data for the EfW CHP Facility Site were measured automatically by AutoCAD, from the associated polygon and linear features drawn within the AutoCAD system. Post-intervention data for the remainder of habitat parcels within the Order limits (where habitat parcels would predominantly be reinstated like-for-like, and are consistent with measurements from the impact stage) were measured using ArcGIS ArcMap following the previously described methods.

### *Trading rules*

2.3.11 To achieve BNG using Biodiversity Metric 3.0, the design of habitat enhancement/restoration and creation must satisfy a set of 'trading rules'. Even if a development provides the required net change in biodiversity units, it will not meet the BNG requirements unless the proposed habitat enhancement/creation is compliant with these trading rules. The trading rules are designed around the good practice principles for BNG[8] and require that any loss of habitat is replaced on a 'like for like' or 'like for better' distinctiveness basis as outlined in **Table 2.2** Metric 3.0: habitat distinctiveness trading rules **Metric 3.0: habitat distinctiveness trading rules**. Proposed habitat enhancement/creation was therefore aligned with the requirements of these trading rules within Metric 3.0.

**Table 2.2 Metric 3.0: habitat distinctiveness trading rules[1]**

| Baseline habitat distinctiveness | Distinctiveness of replacement habitat required by trading rules |
|---|---|
| **Very high** | **Losses are not permitted** |
| **High** | Must be replaced with biodiversity units of the **same habitat type** |
| **Medium** | Must be replaced with either:<br>• **Medium distinctiveness** habitat from the **same broad habitat type**; or<br>• Any habitat from a **higher distinctiveness band** |
| **Low** | Must be replaced with either:<br>• **Same distinctiveness** habitat; or<br>• Any habitat from a **higher distinctiveness band** |
| **Very low** | Replacement **not required** |

### *Translation of habitat types for use in Biodiversity Metric 3.0*

2.3.12 The habitat types described in the Outline Landscape and Ecology Strategy were translated for use in Biodiversity Metric 3.0 following the translation method described in **Section 2.2**.

### *Measures of habitat quality*

2.3.13 In Biodiversity Metric 3.0 measures of habitat quality apply at the post-intervention stage as they did at the baseline stage; to adjust the post-intervention biodiversity units proportionate with the quality of each habitat parcel which is created or enhanced/restored. The methodology used in applying these measures to the post-intervention habitat data is described in the following sections.

#### *Habitat distinctiveness*

2.3.14 Habitat distinctiveness was again preassigned by Biodiversity Metric 3.0 based on habitat type at the post-intervention stage.

#### *Habitat condition*

2.3.15 The Biodiversity Metric 3.0 Condition Assessment Sheets[14] were also used in determining the habitat condition at the post-intervention stage. In this instance, the condition assessment criteria were used to define what each condition state might look like for a given proposed habitat type. It was assessed whether each criterion would likely pass or fail based on information about the Proposed Development and its operation known at this stage (see **Chapter 3: Description of the Proposed Development (Volume 6.2)**), and consideration of whether the associated level habitat management and maintenance would be practicable, and the associated assumptions and justification was recorded. Each habitat parcel post-development was then assigned a proposed habitat condition, noting that the assumptions made here should be verified during detail design.

#### *Strategic significance*

2.3.16 From a desk study, the following sources relevant to determining strategic significance for the post-intervention stage, which relate to habitat creation opportunities, were reviewed:

- **Fens For the Future; a Strategic Plan for Fenland: A Proposal for an Enhanced Ecological Network report[27] and map[28]:** A strategic plan to identify priorities for biodiversity action across the Fens National Character Area. The Proposed Development falls within a Sustainable Use Area, which sits outside the Proposed Ecological Network and where the focus is on sustainable use of natural resources, appropriate economic activities, and maintenance of ecosystem services; to make the matrix of land use more permeable to wildlife. The report identifies that the Sustainable Use Areas have been identified based on assemblages of target farmland birds, but that more work is required to refine their process of identification and establishment. In its present form, the Enhanced Ecological Network map provides very limited information relevant to defining strategic significance with respect to habitat creation and enhancement.
- **Norfolk Green Infrastructure Mapping Project report[22] and ecological opportunity maps[23]:** A series of ecological network maps (including separate

[27] Fens for the Future Partnership (2012). Fens For the Future – A Proposal for an Enhanced Ecological Network report. (online) (Accessed 01/07/2022).
[28]Fens for the Future Partnership (2012). Fens For the Future – A Proposal for an Enhanced Ecological Network map. (online) (Accessed 01/07/2022).

opportunity maps for grassland and heathland, woodland and wetland habitat, and broad ecological corridors) to inform the Local Plans of the Local Planning Authorities in the county. The mapping resolution is coarse and of limited value in identifying detailed locations of green infrastructure assets in the vicinity of the Proposed Development and does not identify any obvious features of relevance.

- **National Habitat Network[29]:** A spatial dataset showing areas of primary or degraded habitats where restoration would be valuable. The dataset also includes land within close proximity to existing habitat where enhancement or restoration would benefit the local area through increasing the area of targeted habitat types and connecting existing habitats. However, the mapping is coarse and provides limited information on targeting specific habitat types.
- **Cambridgeshire and Peterborough Habitat Opportunity Mapping report[30] and mapping data[31]:** A spatial dataset showing areas which would benefit from specific habitat creation or enhancement. The suggested proposed habitat is realistic for the area and aims to connect specific habitat types with existing areas whilst maintaining the historical type of land management. The opportunity mapping includes the following layers for wetland, woodland and grassland habitats which provide strategic guidance on targeting habitat creation and enhancement:
  - **Buffer Opportunity Map:** Identifies habitat opportunity areas that are immediately adjacent to and buffer existing areas of habitat within the ecological network.
  - **Stepping-stone Opportunity Map**: Identifies habitat opportunity areas that fall outside of the ecological network, but which are immediately adjacent to it. These areas could potentially be used to create stepping-stone habitats that could link up more distant areas of habitat.
  - **Habitat Network Map:** Indicates where habitat created within the existing network would be ecologically connected to existing areas of habitat.

2.3.17 Of the data sources reviewed, the Cambridgeshire and Peterborough Habitat Opportunity Mapping was the most up to date, relevant and detailed data source against which the strategic significance of the proposed habitat creation and enhancement could be determined. The opportunity mapping data was provided as a GIS dataset and compared against the habitat proposals for the Proposed Development using ArcGIS ArcMap.

2.3.18 The habitat opportunity mapping identified grassland and woodland opportunity areas within the Order limits, but no wetland opportunity areas. All habitat parcels located within a habitat opportunity area were assigned high significance. Where a habitat parcel was located partially within a habitat opportunity area, the entire habitat parcel was assigned high significance. All habitat parcels located outside habitat opportunity area were assigned low significance, as none of those parcels

[29] Natural England (2018). Habitat Networks (England) spatial dataset. (online) (Accessed 01/07/2022).
[30] Natural Capital Solutions (2019). Mapping natural capital and opportunities for habitat creation in Cambridgeshire. Report for Cambridgeshire Biodiversity Partnership.
[31] Habitat Opportunity Mapping GIS data supplied by the Cambridgeshire and Peterborough Environmental Records Centre.

were in locations which were sufficiently ecologically desirable to be of medium significance.

### *Unit modifiers*

2.3.19 Unit modifiers were applied to post-intervention habitat parcels for river habitats following the same methodology described for the baseline in **Section 2.2**.

2.3.20 Where there was a change from a river/stream/ditch to a culvert, this was recorded as a major watercourse encroachment to document the worst-case scenario. The level of encroachment will be reviewed at the detailed design stage.

### *Risk factors*

2.3.21 Biodiversity Metric 3.0 applies several risk factors to post-intervention habitat change, which can have either a neutral (no) impact or negative impact (reduction) in terms of the number of biodiversity units yielded for a given habitat parcel. In broad terms, the risk multipliers apply to the level of difficulty and time taken to achieve target condition for a given habitat change, and for off-site habitat changes, the proximity to the loss site. The risk multipliers and their effects are summarised in **Table 2.3** Risk multipliers in Biodiversity Metric 3.0 **Risk multipliers in Biodiversity Metric 3.0**.

**Table 2.3 Risk multipliers in Biodiversity Metric 3.0[1]**

| Risk multiplier | Summary | On-site and/or off-site |
|---|---|---|
| **Difficulty – of creation and enhancement/ restoration** | • Applied based on the level of uncertainty of achieving the target outcome for a given habitat type[32].<br>• Varies between habitat type.<br>• A separate multiplier applied for creation and enhancement/restoration.<br>• Preassigned in Biodiversity Metric 3.0 based on habitat type and the target condition. | On-site and off-site |
| **Temporal risks** | • Applied based on the time to achieve target condition for a habitat change.<br>• Two components applied separately:<br>  ○ Standard time to target condition: preassigned in Biodiversity Metric 3.0 based on habitat type and the target condition; and<br>  ○ Advance or delay in starting creation/enhancement following the date of habitat clearance: user-defined in terms of number of years, with 0 years added when undertaken in advance, otherwise the number of years of delay is added cumulatively to the standard time to target condition. | On-site and off-site |

[32] For example, a modified grassland is comparatively easy to create and manage and is assigned a 'low' difficulty multiplier, compared to an upland calcareous grassland which is assigned a 'high' difficulty multiplier.

| Risk multiplier | Summary | On-site and/or off-site |
|---|---|---|
| **Spatial risk** | • Applied based on location of biodiversity loss compared off-site habitat compensation. User-defined based on:<br>○ Compensation inside Local Planning authority (LPA) or Natural Character Area (NCA), or Marine Plan Area (MPA) for intertidal habitat, or waterbody (for river habitat), of impact site;<br>○ Compensation outside of LPA/NCA/MPA/catchment of impact site but in neighbouring LPA/NCA/MPA/catchment; or<br>○ Compensation outside of LPA/NCA/MPA/catchment of impact site and beyond neighbouring LPA/NCA/MPA/catchment. | Off-site only |

2.3.22 The construction programme is described in **ES Chapter 3: Description of the Proposed Development (Volume 6.2)**, with construction planned to adhere to the set timescales over a three-year construction programme. It is assumed that habitat loss would occur at the outset of construction actives for a given component of the Proposed Development, and that habitat creation would commence at the end of the construction period for that component, resulting in a delay in starting habitat creation of up to three years. Different construction activities and components of the Proposed Development have shorter construction times and thus shorter delays in starting habitat creation.

2.3.23 The delay in starting habitat creation assigned to each habitat parcel was therefore based on the timescales in the construction programme for the relevant component of the Proposed Development. Where no timescale was identified, an assumed worst-case scenario of a three-year delay was applied.

*Data entry and calculation of biodiversity units at the post-intervention stage: as-designed*

2.3.24 To prepare the post-intervention data for entry into the Biodiversity Metric 3.0 Calculation Tool, a master spreadsheet was compiled. For each individual habitat parcel of proposed habitat enhancement/creation, this included the broad habitat/habitat type and its area, the outcome of the habitat quality measures, unit modifiers and risk factors that are user-defined, and relevant assessor comments such as which part of the Proposed Development the habitat parcel related to and brief notes on the enhancement/creation.

2.3.25 Following a final quality assurance check, data was added into the calculation tool for area-based, linear and river habitats, with each habitat parcel added as a separate row in a logical order based on components of the Proposed Development.

2.3.26 At this stage, the calculation tool produced a post-intervention biodiversity unit value for each separate habitat parcel, detailed results of the change in biodiversity units between the baseline and post-intervention stages across area-base/linear/river habitats, and analysis of whether the trading rules were satisfied.

### *BNG modelling*

2.3.27 The OLES was designed to maximise the biodiversity benefit of the EfW CHP Facility Site, while enhancement of third-party land within the Order limits is not expected to be feasible. The BNG assessment of the Proposed Development, as-designed, included on-site habitats only (i.e., within the Order limits). The resultant net change in biodiversity units for area-based, linear and river habitats is insufficient to provide BNG (see **Section 3.2**).

2.3.28 Additional off-site habitat intervention is therefore expected to be required to deliver BNG for the Proposed Development, but the mechanism for delivering this is yet to be defined. BNG modelling was therefore undertaken to identify potential habitat changes that could be undertaken off-site (in addition to those included on-site within the Order limits for the Proposed Development as-designed), to achieve BNG in area-based, linear and river biodiversity units while satisfying the trading rules.

2.3.29 The modelling was based on the assumption that off-site BNG provision (i.e., outside of the Order limits) would be in the same Local Planning Authority area (no negative impact of the spatial risk multiplier) and would start the same year as habitat clearance on site (minimising time to target condition and associated negative impact of the temporal risk multiplier). The modelling was based on providing pragmatic scenarios that would be reasonably practicable to deliver.

## Constraints and assumptions

2.3.30 The impacts and post-intervention habitat changes and outcome of the BNG calculations are based on the Proposed Development as-designed at the DCO submission stage. The BNG assessment would be refined based on the detailed design, with assumptions made here to be verified and the metric calculation updated accordingly.

2.3.31 This initial BNG assessment focused on the metric calculation. A full BNG assessment would be required at the detailed design stage that should include assessment of progress to meeting all of the BNG Good Practice Principles[8] including additionality.

2.3.32 BNG metric calculations throughout DCO and design stages are predictions of the Proposed Development's biodiversity outcomes based on the information available at the time. An "as-built" BNG metric calculation should be undertaken at the end of construction using as-built data of habitat clearance and landscaping, in order to capture any changes from the design.

2.3.33 The BNG modelling did not account for any environmental assessment that would be required for off-site BNG delivery. For example, archaeology, landscape, contaminated land etc.

# 3. Results

## 3.1 Baseline

3.1.1 A summary of the baseline habitat parcels, and associated baseline units calculated within the Biodiversity Metric 3.0 Calculation Tool, are presented in the following sections for area-based, linear and river units respectively. Detailed assessment of habitat condition for each habitat parcel included in the baseline is presented in **Annex A**. The full calculation tool is presented in **Annex B**.

3.1.2 The baseline includes on-site habitats only (i.e., within the Order limits) at this stage.

3.1.3 There are no irreplaceable habitats within the Order limits, or habitats classed within Biodiversity Metric 3.0 as having very high distinctiveness, where any loss would be unacceptable. The Proposed Development is located outside of any statutory or non-statutory designated nature conservation sites.

### Area-based unit baseline

3.1.4 The baseline of area-based units is presented in **Table 3.1** Area-based unit baseline **Area-based unit baseline**. Before the Proposed Development, land within the Order limits consists of 16.83ha of area-based habitats that generate 36.42 units. Most of these units are generated by scrub (17.84 units) and grassland (13.58 units). In comparison, much fewer units are generated by urban habitats (3.24 units), sparsely vegetated land (0.74 units), cropland: intensive orchards (0.55 units) and woodland (0.48 units).

3.1.5 In terms of area, there is actually more hectares of grassland than scrub (~3.7ha of grassland and 2.4ha of scrub). All other habitats occurred in small patches including 0.2ha of woodland.

3.1.6 There were no habitats of a high distinctiveness. Considering the dominant habitats of grassland and scrub: one grassland type was of medium distinctiveness (other neutral grassland) with the remaining grasslands being of low distinctiveness. Similarly, mixed scrub was of medium distinctiveness while the bramble scrub was of low distinctiveness. In addition, all woodland on site was of medium distinctiveness.

### Table 3.1 Area-based unit baseline

| Ref | Broad habitat | Habitat type | Area (ha) | Distinctiveness | Habitat condition | Strategic significance | Component of Proposed Development | Total baseline area-based units |
|---|---|---|---|---|---|---|---|---|
| **1** | Grassland | Modified grassland | 0.037 | Low | Moderate | Low | Grid Connection | **0.148** |
| **2** | Urban | Developed land; sealed surface | 4.617 | V.Low | N/A - Other | Low | A47 Traffic Management. | **0** |
| **3** | Heathland and shrub | Mixed scrub | 0.001 | Medium | Poor | Low | Access Improvements. | **0.004** |
| **4** | Urban | Developed land; sealed surface | 0.477 | V.Low | N/A - Other | Low | Access Improvements. | **0** |
| **5** | Urban | Developed land; sealed surface | 0.049 | V.Low | N/A - Other | Low | Access Improvements. | **0** |
| **6** | Grassland | Modified grassland | 0.046 | Low | Moderate | Low | Access Improvements. | **0.184** |
| **7** | Grassland | Modified grassland | 0.089 | Low | Moderate | Low | Access Improvements. | **0.356** |
| **8** | Grassland | Modified grassland | 0.003 | Low | Moderate | Low | Access Improvements. | **0.012** |
| **9** | Grassland | Modified grassland | 0.002 | Low | Moderate | Low | Access Improvements. | **0.008** |
| **10** | Heathland and shrub | Bramble scrub | 0.027 | Medium | Poor | Low | Access Improvements. | **0.108** |
| **11** | Grassland | Modified grassland | 0.009 | Low | Moderate | Low | Access Improvements. | **0.036** |
| **12** | Urban | Developed land; sealed surface | 0.028 | V.Low | N/A - Other | Low | Access Improvements. | **0** |
| **13** | Heathland and shrub | Mixed scrub | 0.008 | Medium | Poor | Low | Access Improvements. | **0.032** |
| **14** | Grassland | Modified grassland | 0.013 | Low | Moderate | Low | Access Improvements. | **0.052** |
| **15** | Grassland | Modified grassland | 0.022 | Low | Moderate | Low | Access Improvements. | **0.088** |
| **16** | Urban | Developed land; sealed surface | 0.007 | V.Low | N/A - Other | Low | Access Improvements. | **0** |
| **17** | Urban | Vegetated garden | 0.02 | Low | Poor | Low | Acoustic screening. | **0.04** |
| **18** | Urban | Vegetated garden | 0.009 | Low | Poor | Low | Acoustic screening. | **0.018** |
| **19** | Urban | Developed land; sealed surface | 0.505 | V.Low | N/A - Other | Low | Access Improvements – Algores Way. | **0** |
| **20** | Grassland | Other neutral grassland | 0.055 | Medium | Moderate | Low | CHP Connection. | **0.44** |
| **21** | Urban | Developed land; sealed surface | 0.001 | V.Low | N/A - Other | Low | CHP Connection. | **0** |
| **22** | Heathland and shrub | Mixed scrub | 0.145 | Medium | Moderate | Low | CHP Connection. | **1.16** |
| **23** | Heathland and shrub | Mixed scrub | 0.025 | Medium | Moderate | Low | CHP Connection. | **0.2** |
| **24** | Heathland and shrub | Mixed scrub | 0.024 | Medium | Moderate | Low | CHP Connection. | **0.192** |
| **25** | Heathland and shrub | Bramble scrub | 0.027 | Medium | Poor | Low | CHP Connection. | **0.108** |

| Ref | Broad habitat | Habitat type | Area (ha) | Distinctiveness | Habitat condition | Strategic significance | Component of Proposed Development | Total baseline area-based units |
|---|---|---|---|---|---|---|---|---|
| **26** | Heathland and shrub | Mixed scrub | 0.082 | Medium | Moderate | Low | CHP Connection. | **0.656** |
| **27** | Heathland and shrub | Mixed scrub | 0.218 | Medium | Moderate | Low | CHP Connection. | **1.744** |
| **28** | Woodland and forest | Other woodland; broadleaved | 0.014 | Medium | Poor | Low | CHP Connection. | **0.056** |
| **29** | Urban | Developed land; sealed surface | 0.01 | V.Low | N/A - Other | Low | CHP Connection. | **0** |
| **30** | Heathland and shrub | Mixed scrub | 0.072 | Medium | Moderate | Low | CHP Connection. | **0.576** |
| **31** | Heathland and shrub | Mixed scrub | 0.295 | Medium | Moderate | Low | CHP Connection. | **2.36** |
| **32** | Heathland and shrub | Mixed scrub | 0.366 | Medium | Moderate | Low | CHP Connection. | **2.928** |
| **33** | Heathland and shrub | Bramble scrub | 0.051 | Medium | Poor | Low | CHP Connection. | **0.204** |
| **34** | Heathland and shrub | Mixed scrub | 0.034 | Medium | Moderate | Low | CHP Connection. | **0.272** |
| **35** | Urban | Developed land; sealed surface | 0.011 | V.Low | N/A - Other | Low | CHP Connection. | **0** |
| **36** | Heathland and shrub | Mixed scrub | 0.098 | Medium | Moderate | Low | CHP Connection. | **0.784** |
| **37** | Heathland and shrub | Mixed scrub | 0.099 | Medium | Moderate | Low | CHP Connection. | **0.792** |
| **38** | Heathland and shrub | Mixed scrub | 0.2 | Medium | Moderate | Low | CHP Connection. | **1.6** |
| **39** | Urban | Developed land; sealed surface | 0.213 | V.Low | N/A - Other | Low | CHP Connection. | **0** |
| **40** | Woodland and forest | Other woodland; broadleaved | 0.068 | Medium | Poor | Low | CHP Connection. | **0.272** |
| **41** | Woodland and forest | Other woodland; broadleaved | 0.007 | Medium | Poor | Low | CHP Connection. | **0.028** |
| **42** | Woodland and forest | Other woodland; broadleaved | 0.016 | Medium | Poor | Low | CHP Connection. | **0.064** |
| **43** | Woodland and forest | Other woodland; broadleaved | 0.015 | Medium | Poor | Low | CHP Connection. | **0.06** |
| **44** | Grassland | Other neutral grassland | 0.045 | Medium | Moderate | Low | CHP Connection. | **0.36** |
| **45** | Grassland | Modified grassland | 0.002 | Low | Moderate | Low | EfW CHP Facility Site. | **0.008** |
| **46** | Urban | Developed land; sealed surface | 0.139 | V.Low | N/A - Other | Low | EfW CHP Facility Site. | **0** |
| **47** | Grassland | Modified grassland | 0.069 | Low | Moderate | Low | EfW CHP Facility Site. | **0.276** |
| **48** | Heathland and shrub | Bramble scrub | 0.074 | Medium | Poor | Low | EfW CHP Facility Site. | **0.296** |
| **49** | Urban | Vacant/derelict land/ bareground | 0.036 | Low | Poor | Low | EfW CHP Facility Site. | **0.072** |
| **50** | Urban | Vacant/derelict land/ bareground | 0.327 | Low | Moderate | Low | EfW CHP Facility Site. | **1.308** |
| **51** | Urban | Artificial unvegetated, unsealed surface | 2.668 | V.Low | N/A - Other | Low | EfW CHP Facility Site. | **0** |

| Ref | Broad habitat | Habitat type | Area (ha) | Distinctiveness | Habitat condition | Strategic significance | Component of Proposed Development | Total baseline area-based units |
|---|---|---|---|---|---|---|---|---|
| **52** | Heathland and shrub | Mixed scrub | 0.287 | Medium | Moderate | Low | EfW CHP Facility Site. | **2.296** |
| **53** | Urban | Vacant/derelict land/ bareground | 0.419 | Low | Moderate | Low | EfW CHP Facility Site. | **1.676** |
| **54** | Grassland | Modified grassland | 0.327 | Low | Moderate | Low | EfW CHP Facility Site. | **1.308** |
| **55** | Urban | Developed land; sealed surface | 0.002 | V.Low | N/A - Other | Low | EfW CHP Facility Site. | **0** |
| **56** | Heathland and shrub | Mixed scrub | 0.137 | Medium | Moderate | Low | EfW CHP Facility Site. | **1.096** |
| **57** | Grassland | Modified grassland | 0.575 | Low | Poor | Low | Grid Connection. | **1.15** |
| **58** | Grassland | Modified grassland | 0.166 | Low | Poor | Low | Grid Connection. | **0.332** |
| **59** | Grassland | Modified grassland | 0.029 | Low | Moderate | Low | Grid Connection. | **0.116** |
| **60** | Urban | Developed land; sealed surface | 0.188 | V.Low | N/A - Other | Low | Grid Connection. | **0** |
| **61** | Urban | Developed land; sealed surface | 0.157 | V.Low | N/A - Other | Low | Grid Connection. | **0** |
| **62** | Sparsely vegetated land | Ruderal/Ephemeral | 0.061 | Low | Moderate | Low | Grid Connection. | **0.244** |
| **63** | Urban | Vegetated garden | 0.035 | Low | Poor | Low | Grid Connection. | **0.07** |
| **64** | Urban | Vegetated garden | 0.016 | Low | Poor | Low | Grid Connection. | **0.032** |
| **65** | Sparsely vegetated land | Ruderal/Ephemeral | 0.114 | Low | Moderate | Low | Grid Connection. | **0.456** |
| **66** | Grassland | Modified grassland | 0.115 | Low | Moderate | Low | Grid Connection. | **0.46** |
| **67** | Grassland | Modified grassland | 0.284 | Low | Moderate | Low | Temporary Construction Compound. | **1.136** |
| **68** | Grassland | Modified grassland | 0.37 | Low | Moderate | Low | Temporary Construction Compound. | **1.48** |
| **69** | Grassland | Modified grassland | 1.212 | Low | Moderate | Low | Temporary Construction Compound. | **4.848** |
| **70** | Heathland and shrub | Bramble scrub | 0.032 | Medium | Poor | Low | Temporary Construction Compound. | **0.128** |
| **71** | Heathland and shrub | Bramble scrub | 0.04 | Medium | Poor | Low | Temporary Construction Compound. | **0.16** |
| **72** | Heathland and shrub | Bramble scrub | 0.035 | Medium | Poor | Low | Temporary Construction Compound. | **0.14** |
| **73** | Cropland | Intensive orchards | 0.273 | Low | N/A -Agricultural | Low | Water Connection. | **0.546** |
| **74** | Grassland | Modified grassland | 0.015 | Low | Moderate | Low | Water Connection. | **0.06** |
| **75** | Grassland | Modified grassland | 0.06 | Low | Moderate | Low | Water Connection. | **0.24** |

| Ref | Broad habitat | Habitat type | Area (ha) | Distinctiveness | Habitat condition | Strategic significance | Component of Proposed Development | Total baseline area-based units |
|---|---|---|---|---|---|---|---|---|
| **76** | Urban | Vegetated garden33 | 0.011 | Low | Poor | Low | Water Connection. | **0.022** |
| **77** | Grassland | Modified grassland | 0.011 | Low | Moderate | Low | Water Connection. | **0.044** |
| **78** | Grassland | Modified grassland | 0.042 | Low | Moderate | Low | Water Connection. | **0.168** |
| **79** | Sparsely vegetated land | Ruderal/Ephemeral | 0.018 | Low | Poor | Low | Water Connection. | **0.036** |
| **80** | Grassland | Modified grassland | 0.008 | Low | Moderate | Low | Water Connection. | **0.032** |
| **81** | Grassland | Modified grassland | 0.031 | Low | Moderate | Low | Water Connection. | **0.124** |
| **82** | Urban | Developed land; sealed surface | 0.228 | V.Low | N/A - Other | Low | Water Connection. | **0** |
| **83** | Grassland | Modified grassland | 0.057 | Low | Poor | Low | Water Connection. | **0.114** |

[33] This is the area of land between the ditch and the footpath at the end of New Bridge Lane.

## Linear unit baseline

3.1.7 The baseline of linear units is presented in **Table 3.2 Linear unit baseline** . Before the Proposed Development, land within the Order limits consists of 1.1km of linear habitats that generate 4.71 units. Most of these units are generated by lines of trees (3.44 units; 0.99km) with the remainder by hedgerow (1.27 units; 0.12km).

3.1.8 There were no very high or high distinctiveness linear habitats. Only the hedgerow was of a medium distinctiveness and the line of tree habitats were all of a low distinctiveness.

## Table 3.2 Linear unit baseline

| Ref | Hedgerow type | Length (km) | Distinctiveness | Habitat condition | Strategic significance | Component of Proposed Development | Total baseline linear units |
|---|---|---|---|---|---|---|---|
| **1** | Line of Trees | 0.054 | Low | Moderate | Low | CHP Connection. | 0.216 |
| **2** | Line of Trees | 0.173 | Low | Poor | Low | CHP Connection. | 0.346 |
| **3** | Line of Trees | 0.046 | Low | Poor | Low | CHP Connection. | 0.092 |
| **4** | Line of Trees | 0.012 | Low | Moderate | Low | CHP Connection. | 0.048 |
| **5** | Line of Trees | 0.096 | Low | Moderate | Low | CHP Connection. | 0.384 |
| **6** | Line of Trees - Associated with bank or ditch | 0.104 | Low | Moderate | Low | EfW CHP Facility Site. | 0.416 |
| **7** | Line of Trees - Associated with bank or ditch | 0.032 | Low | Moderate | Low | EfW CHP Facility Site. | 0.128 |
| **8** | Line of Trees - Associated with bank or ditch | 0.04 | Low | Moderate | Low | EfW CHP Facility Site. | 0.16 |
| **9** | Line of Trees | 0.031 | Low | Poor | Low | Grid Connection. | 0.062 |
| **10** | Line of Trees - Associated with bank or ditch | 0.111 | Low | Moderate | Low | Grid Connection. | 0.444 |
| **11** | Line of Trees - Associated with bank or ditch | 0.279 | Low | Moderate | Low | Grid Connection. | 1.116 |
| **12** | Line of Trees | 0.013 | Low | Poor | Low | Grid Connection. | 0.026 |
| **13** | Native Hedgerow - Associated with bank or ditch | 0.106 | Medium | Good | Low | EfW CHP Facility Site. | 1.272 |

## River unit baseline

3.1.9 The baseline of river units is presented in **Table 3.3** River unit baseline **River unit baseline**. Before the Proposed Development, land within the Order limits consists of 0.44km of river habitats that generate 1.77 units. The river units are generated entirely by ditches (noting that ditches do not have riparian zones in accordance with the Biodiversity Metric 3.0 user guide[1]). On this basis, there were no very high or high distinctiveness river habitats.

### Table 3.3 River unit baseline

| Ref | River type | Length (km) | Distinctiveness | Condition | Strategic significance | Extent of watercourse encroachment | Extent of riparian zone encroachment | Component of Proposed Development | Total river units |
|---|---|---|---|---|---|---|---|---|---|
| **1** | Ditches | 0.015 | Medium | Poor | Low | No Encroachment | No Encroachment | Access Improvements. | 0.06 |
| **2** | Ditches | 0.001 | Medium | Poor | Low | No Encroachment | No Encroachment | Access Improvements. | 0.004 |
| **3** | Ditches | 0.039 | Medium | Poor | Low | No Encroachment | No Encroachment | EfW CHP Facility Site. | 0.156 |
| **4** | Ditches | 0.027 | Medium | Poor | Low | No Encroachment | No Encroachment | EfW CHP Facility Site. | 0.108 |
| **5** | Ditches | 0.027 | Medium | Poor | Low | No Encroachment | No Encroachment | EfW CHP Facility Site. | 0.108 |
| **6** | Ditches | 0.199 | Medium | Poor | Low | No Encroachment | No Encroachment | Temporary Construction Compound. | 0.796 |
| **7** | Ditches | 0.083 | Medium | Poor | Low | No Encroachment | No Encroachment | Temporary Construction Compound. | 0.332 |
| **8** | Ditches | 0.052 | Medium | Poor | Low | No Encroachment | No Encroachment | Water Connection. | 0.208 |

## 3.2 Impacts and post-intervention

3.2.1 A summary of the impact to the baseline habitat parcels and the subsequent post-intervention habitat enhancement/restoration and creation, and associated units lost calculated within the Biodiversity Metric 3.0 Calculation Tool, are presented in the following sections for area-based, linear and river units respectively. Detailed assessment of proposed habitat condition for each habitat parcel included at the post-intervention stage is presented in **Annex A**. The full calculation tool is presented in **Annex B**.

3.2.2 Impacts and post-intervention include on-site habitats only (i.e., within the Order limits) at this stage.

### Impacts

#### *Area-based unit impacts*

3.2.3 The impacts on area-based habitats and the associated change to baseline units is presented in **Table 3.4 Area-based unit impacts Area-based unit impacts**. Habitat clearance for the Proposed Development (as currently known) would result in the loss of 20.30 area-based units; this is a 56% loss of the total number of area-based baseline units and a 43% loss of habitat cover (i.e., a loss of 7.24ha).

3.2.4 The greatest loss is grassland: 78% of grassland units are lost (i.e., 10.62 units are lost from the baseline of 13.58 units). Whereas only 36% of scrub units are lost (i.e., 6.46 units are lost from the baseline of 17.84 units). While 0.12 ha of woodland will be retained, there will be a smaller area of woodland to be cleared (0.01 ha resulting in the loss of 0.06 units from woodland) as well as clearance of urban habitats and sparsely vegetated land.

### Table 3.4 Area-based unit impacts

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.037 | 0 | 0 | 0 | 0 | 0.037 | 0.148 | Grid Connection. | Temporary loss and reinstated (over 2 years). |
| **2** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 4.617 | 4.617 | 0 | 0 | 0 | 0 | 0 | A47 Traffic Management. | Temporary loss and fully reinstated within 2 years. |
| **3** | Heathland and shrub - Mixed scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.001 | 0.001 | 0.004 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **4** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.477 | 0.477 | 0 | 0 | 0 | 0 | 0 | Access Improvements. | Temporary loss and fully reinstated within 2 years. |
| **5** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.049 | 0.049 | 0 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **6** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.046 | 0 | 0 | 0 | 0 | 0.046 | 0.184 | Access Improvements. | Permanent loss. |
| **7** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.089 | 0 | 0 | 0 | 0 | 0.089 | 0.356 | Access Improvements. | Permanent loss. |
| **8** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.003 | 0.003 | 0.012 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **9** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.002 | 0.002 | 0.008 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **10** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.027 | 0.027 | 0.108 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **11** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.009 | 0 | 0 | 0 | 0 | 0.009 | 0.036 | Access Improvements. | Permanent loss. |
| **12** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.028 | 0 | 0 | 0 | 0 | 0.028 | 0 | Access Improvements. | Permanent loss. |
| **13** | Heathland and shrub - Mixed scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.008 | 0.008 | 0.032 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **14** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.013 | 0.013 | 0.052 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **15** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.022 | 0.022 | 0.088 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **16** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.007 | 0.007 | 0 | 0 | 0 | 0 | 0 | Access Improvements. | Temporary loss and fully reinstated within 2 years. |
| **17** | Urban - Vegetated garden | Low | Poor | Same distinctiveness or better habitat required | 0.02 | 0 | 0 | 0 | 0 | 0.02 | 0.04 | Acoustic screening. | Permanent loss. |
| **18** | Urban - Vegetated garden | Low | Poor | Same distinctiveness or better habitat required | 0.009 | 0 | 0 | 0 | 0 | 0.009 | 0.018 | Acoustic screening. | Permanent loss. |
| **19** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.505 | 0.505 | 0 | 0 | 0 | 0 | 0 | Access Improvements - Algores Way. | Temporary loss and fully reinstated within 2 years. |
| **20** | Grassland - Other neutral grassland | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.055 | 0 | 0 | 0 | 0 | 0.055 | 0.44 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **21** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.001 | 0 | 0 | 0 | 0 | 0.001 | 0 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **22** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.145 | 0 | 0 | 0 | 0 | 0.145 | 1.16 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **23** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.025 | 0 | 0 | 0 | 0 | 0.025 | 0.2 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **24** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.024 | 0 | 0 | 0 | 0 | 0.024 | 0.192 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **25** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.027 | 0 | 0 | 0 | 0 | 0.027 | 0.108 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **26** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.082 | 0 | 0 | 0 | 0 | 0.082 | 0.656 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | reinstated (over 2 years). |
| **27** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.218 | 0 | 0 | 0 | 0 | 0.218 | 1.744 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **28** | Woodland and forest - Other woodland; broadleaved | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.014 | 0 | 0 | 0 | 0 | 0.014 | 0.056 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **29** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.01 | 0 | 0 | 0 | 0 | 0.01 | 0 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **30** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.072 | 0 | 0 | 0 | 0 | 0.072 | 0.576 | CHP Connection. | Approximately 75% permanent loss and 25% temporary loss and reinstated (over 2 years). |
| **31** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.295 | 0.295 | 2.36 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **32** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.366 | 0.366 | 2.928 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **33** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.051 | 0.051 | 0.204 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **34** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.034 | 0.034 | 0.272 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **35** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.011 | 0.011 | 0 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **36** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.098 | 0.098 | 0.784 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **37** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.099 | 0.099 | 0.792 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **38** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.2 | 0.2 | 1.6 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **39** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.213 | 0.213 | 0 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **40** | Woodland and forest - Other woodland; broadleaved | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.068 | 0.068 | 0.272 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **41** | Woodland and forest - Other woodland; broadleaved | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.007 | 0.007 | 0.028 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **42** | Woodland and forest - Other woodland; broadleaved | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.016 | 0.016 | 0.064 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **43** | Woodland and forest - Other woodland; broadleaved | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.015 | 0.015 | 0.06 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **44** | Grassland - Other neutral grassland | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.045 | 0.045 | 0.36 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **45** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.002 | 0 | 0 | 0 | 0 | 0.002 | 0.008 | EfW CHP Facility Site. | Permanent loss. |
| **46** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.139 | 0 | 0 | 0 | 0 | 0.139 | 0 | EfW CHP Facility Site. | Permanent loss. |
| **47** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.069 | 0 | 0 | 0 | 0 | 0.069 | 0.276 | EfW CHP Facility Site. | Permanent loss. |
| **48** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.074 | 0 | 0 | 0 | 0 | 0.074 | 0.296 | EfW CHP Facility Site. | Permanent loss. |
| **49** | Urban - Vacant/derelict land/ bareground | Low | Poor | Same distinctiveness or better habitat required | 0.036 | 0 | 0 | 0 | 0 | 0.036 | 0.072 | EfW CHP Facility Site. | Permanent loss. |
| **50** | Urban - Vacant/derelict land/ bareground | Low | Moderate | Same distinctiveness or better habitat required | 0.327 | 0 | 0 | 0 | 0 | 0.327 | 1.308 | EfW CHP Facility Site. | Permanent loss. |
| **51** | Urban - Artificial unvegetated, unsealed surface | V.Low | N/A - Other | Compensation Not Required | 2.668 | 0 | 0 | 0 | 0 | 2.668 | 0 | EfW CHP Facility Site. | Permanent loss. |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **52** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.287 | 0.287 | 2.296 | 0 | 0 | 0 | 0 | EfW CHP Facility Site. | Retained (no impact). |
| **53** | Urban - Vacant/derelict land/ bareground | Low | Moderate | Same distinctiveness or better habitat required | 0.419 | 0 | 0 | 0 | 0 | 0.419 | 1.676 | EfW CHP Facility Site. | Permanent loss. |
| **54** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.327 | 0 | 0 | 0 | 0 | 0.327 | 1.308 | EfW CHP Facility Site. | Permanent loss. |
| **55** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.002 | 0.002 | 0 | 0 | 0 | 0 | 0 | EfW CHP Facility Site. | Retained (no impact). |
| **56** | Heathland and shrub - Mixed scrub | Medium | Moderate | Same broad habitat or a higher distinctiveness habitat required | 0.137 | 0 | 0 | 0 | 0 | 0.137 | 1.096 | EfW CHP Facility Site. | Permanent loss. |
| **57** | Grassland - Modified grassland | Low | Poor | Same distinctiveness or better habitat required | 0.575 | 0.575 | 1.15 | 0 | 0 | 0 | 0 | Grid Connection. | Temporary loss and fully reinstated within 2 years. |
| **58** | Grassland - Modified grassland | Low | Poor | Same distinctiveness or better habitat required | 0.166 | 0.166 | 0.332 | 0 | 0 | 0 | 0 | Grid Connection. | Temporary loss and fully reinstated within 2 years. |
| **59** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.029 | 0 | 0 | 0 | 0 | 0.029 | 0.116 | Grid Connection. | Permanent loss. |
| **60** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.188 | 0.188 | 0 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **61** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation Not Required | 0.157 | 0.157 | 0 | 0 | 0 | 0 | 0 | Grid Connection. | Temporary loss and fully reinstated within 2 years. |
| **62** | Sparsely vegetated land - Ruderal/Ephemeral | Low | Moderate | Same distinctiveness or better habitat required | 0.061 | 0.061 | 0.244 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **63** | Urban - Vegetated garden | Low | Poor | Same distinctiveness or better habitat required | 0.035 | 0.035 | 0.07 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **64** | Urban - Vegetated garden | Low | Poor | Same distinctiveness or better habitat required | 0.016 | 0.016 | 0.032 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **65** | Sparsely vegetated land - Ruderal/Ephemeral | Low | Moderate | Same distinctiveness or better habitat required | 0.114 | 0.114 | 0.456 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **66** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.115 | 0.115 | 0.46 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **67** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.284 | 0 | 0 | 0 | 0 | 0.284 | 1.136 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **68** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.37 | 0 | 0 | 0 | 0 | 0.37 | 1.48 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **69** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 1.212 | 0 | 0 | 0 | 0 | 1.212 | 4.848 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **70** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.032 | 0 | 0 | 0 | 0 | 0.032 | 0.128 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **71** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.04 | 0 | 0 | 0 | 0 | 0.04 | 0.16 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **72** | Heathland and shrub - Bramble scrub | Medium | Poor | Same broad habitat or a higher distinctiveness habitat required | 0.035 | 0 | 0 | 0 | 0 | 0.035 | 0.14 | Temporary Construction Compound. | Temporary loss and reinstated (over 2 years). |
| **73** | Cropland - Intensive orchards | Low | N/A - Agricultural | Same distinctiveness or better habitat required | 0.273 | 0.273 | 0.546 | 0 | 0 | 0 | 0 | Water Connection. | Temporary loss and fully reinstated within 2 years. |
| **74** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.015 | 0.015 | 0.06 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |
| **75** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.06 | 0.06 | 0.24 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |
| **76** | Urban - Vegetated garden[33] | Low | Poor | Same distinctiveness or better habitat required | 0.011 | 0 | 0 | 0 | 0 | 0.011 | 0.022 | Water Connection. | Temporary loss and reinstated (over 2 years). |
| **77** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.011 | 0.011 | 0.044 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |
| **78** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.042 | 0 | 0 | 0 | 0 | 0.042 | 0.168 | Water Connection. | Temporary loss and reinstated (over 2 years). |
| **79** | Sparsely vegetated land - Ruderal/Ephemeral | Low | Poor | Same distinctiveness or better habitat required | 0.018 | 0 | 0 | 0 | 0 | 0.018 | 0.036 | Water Connection. | Temporary loss and reinstated (over 2 years). |
| **80** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.008 | 0.008 | 0.032 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |
| **81** | Grassland - Modified grassland | Low | Moderate | Same distinctiveness or better habitat required | 0.031 | 0.031 | 0.124 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |

| Ref | Habitat | Distinctiveness | Habitat condition | Trading rule | Total area (ha) | Area retained (ha) | Baseline units retained | Area to be enhanced (ha) | Baseline units to be enhanced | Area lost (ha) | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **82** | Urban - Developed land; sealed surface | V.Low | N/A - Other | Compensation not required | 0.228 | 0.228 | 0 | 0 | 0 | 0 | 0 | Water Connection. | Temporary loss and fully reinstated within 2 years. |
| **83** | Grassland - Modified grassland | Low | Poor | Same distinctiveness or better habitat required | 0.057 | 0 | 0 | 0 | 0 | 0.057 | 0.114 | Water Connection. | Temporary loss and reinstated (over 2 years). |

### *Linear unit impacts*

3.2.5 The impacts on linear habitats and the associated change to baseline units is presented in **Table 3.5 Linear unit impacts Linear unit impacts**. Habitat clearance for the Proposed Development (as currently known) would result in the loss of 1.93 linear units; this is a 41% loss of the total number of linear baseline units and a 25% loss of habitat cover (i.e., a loss of 0.28km).

3.2.6 The greatest loss is hedgerow: 100% of hedgerow units are lost (i.e., all 1.27 baseline units are lost). Whereas only 19% of line of trees units are lost (i.e., 0.66 units are lost from the baseline of 3.43 units).

### Table 3.5 Linear unit impacts

| Ref | Hedgerow type | Distinctiveness | Condition | Trading rule | Total length (km) | Length retained (km) | Units retained | Length to be enhanced (km) | Units to be enhanced (km) | Length lost | Units lost | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Line of Trees | Low | Moderate | Same distinctiveness band or better | 0.054 | 0 | 0 | 0 | 0 | 0.054 | 0.216 | CHP Connection. | Permanent loss. |
| **2** | Line of Trees | Low | Poor | Same distinctiveness band or better | 0.173 | 0.173 | 0.346 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **3** | Line of Trees | Low | Poor | Same distinctiveness band or better | 0.046 | 0.046 | 0.092 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **4** | Line of Trees | Low | Moderate | Same distinctiveness band or better | 0.012 | 0.012 | 0.048 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **5** | Line of Trees | Low | Moderate | Same distinctiveness band or better | 0.096 | 0.096 | 0.384 | 0 | 0 | 0 | 0 | CHP Connection. | Retained (no impact). |
| **6** | Line of Trees - Associated with bank or ditch | Low | Moderate | Same distinctiveness band or better | 0.104 | 0 | 0 | 0 | 0 | 0.104 | 0.416 | EfW CHP Facility Site. | Permanent loss. |
| **7** | Line of Trees - Associated with bank or ditch | Low | Moderate | Same distinctiveness band or better | 0.032 | 0.032 | 0.128 | 0 | 0 | 0 | 0 | EfW CHP Facility Site. | Retained (no impact). |
| **8** | Line of Trees - Associated with bank or ditch | Low | Moderate | Same distinctiveness band or better | 0.04 | 0.04 | 0.16 | 0 | 0 | 0 | 0 | EfW CHP Facility Site. | Retained (no impact). |
| **9** | Line of Trees | Low | Poor | Same distinctiveness band or better | 0.031 | 0.031 | 0.062 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **10** | Line of Trees - Associated with bank or ditch | Low | Moderate | Same distinctiveness band or better | 0.111 | 0.111 | 0.444 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **11** | Line of Trees - Associated with bank or ditch | Low | Moderate | Same distinctiveness band or better | 0.279 | 0.279 | 1.116 | 0 | 0 | 0 | 0 | Grid Connection. | Retained (no impact). |
| **12** | Line of Trees | Low | Poor | Same distinctiveness band or better | 0.013 | 0 | 0 | 0 | 0 | 0.013 | 0.026 | Grid Connection. | Permanent loss. |
| **13** | Native Hedgerow - Associated with bank or ditch | Medium | Good | Like for like or better | 0.106 | 0 | 0 | 0 | 0 | 0.106 | 1.272 | EfW CHP Facility Site. | Permanent loss. |

### *River unit impacts*

3.2.7 The impacts on river habitats and the associated change to baseline units is presented in **Table 3.6 River unit impacts River unit impacts Table 3.4 Area-based unit impacts**. Habitat clearance for the Proposed Development (as currently known) would result in the loss of 0.27 river units; this is a 15% loss of the total number of river baseline units and a 16% loss of habitat cover (i.e., a loss of 0.07km). All unit/habitat loss is of ditches.

### Table 3.6 River unit impacts

| Ref | River type | Distinctiveness | Habitat condition | Trading rule | Total length (km) | Length retained (km) | Units retained | Length to be enhanced (km) | Units to be enhanced | Length lost (km) | Units lost | Component of Proposed Development | Assessor Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | Ditches | Medium | Poor | Restore | 0.015 | 0.015 | 0.06 | 0 | 0 | 0 | 0 | Access Improvements. | Retained (no impact). |
| **2** | Ditches | Medium | Poor | Restore | 0.001 | 0 | 0 | 0 | 0 | 0.001 | 0.004 | Access Improvements. | Permanent loss. |
| **3** | Ditches | Medium | Poor | Restore | 0.039 | 0 | 0 | 0 | 0 | 0.039 | 0.156 | EfW CHP Facility Site. | Permanent loss. |
| **4** | Ditches | Medium | Poor | Restore | 0.027 | 0.027 | 0.108 | 0 | 0 | 0 | 0 | EfW CHP Facility Site. | Retained (no impact). |
| **5** | Ditches | Medium | Poor | Restore | 0.027 | 0 | 0 | 0 | 0 | 0.027 | 0.108 | EfW CHP Facility Site. | Permanent loss. |
| **6** | Ditches | Medium | Poor | Restore | 0.199 | 0.199 | 0.796 | 0 | 0 | 0 | 0 | Temporary Construction Compound. | Retained (no impact). |
| **7** | Ditches | Medium | Poor | Restore | 0.083 | 0.083 | 0.332 | 0 | 0 | 0 | 0 | Temporary Construction Compound. | Retained (no impact). |
| **8** | Ditches | Medium | Poor | Restore | 0.052 | 0.052 | 0.208 | 0 | 0 | 0 | 0 | Water Connection. | Retained (no impact). |

# Post-intervention

## *Area-based units post-intervention*

3.2.8 The area-based units generated at the post-intervention stage are presented in **Table 3.7 Area-based units post-intervention Area-based units post-intervention**.

3.2.9 Area-based habitat creation post-works comprises the reinstatement of baseline habitats (assumed to be to their original type and condition), and creation of new areas/types of habitats following construction works. For example, there is tree planting planned in the area of woodland clearance, and the reinstatement of grassland in areas used for the TCC. There is also the inclusion of new habitats, for example brown roofs on buildings on the EfW CHP Facility Site, additional grassland, and an area of wet woodland creation.

3.2.10 However, the Proposed Development results in an overall net loss of **-9.98%** in area-based habitat units. **This equates to a loss of -3.63 units**.

3.2.11 Reviewing losses and gains in each broad type of habitat shows that, while there are gains in units generated by grassland, there are larger losses in units generated especially by scrub and some from urban habitats, and these result in the overall unit loss:

**Area-based habitat change in area (hectares) and in value (units) – extract from metric calculation for the Proposed Development**

| On site change by broad habitat type | | | | | | |
|---|---|---|---|---|---|---|
| | Baseline | | Post development on site | | Onsite Change | |
| Habitat group | Existing area | Existing value | Proposed area | Proposed value | Area change | Onsite Unit change |
| Cropland | 0.27 | 0.55 | 0.27 | 0.55 | 0.00 | 0.00 |
| Grassland | 3.69 | 13.58 | 4.23 | 17.46 | 0.54 | 3.88 |
| Heathland and shrub | 2.38 | 17.84 | 1.74 | 12.83 | -0.63 | -5.00 |
| Lakes | 0.00 | 0.00 | 0.01 | 0.06 | 0.01 | 0.06 |
| Sparsely vegetated land | 0.19 | 0.74 | 0.19 | 0.73 | 0.00 | 0.00 |
| Urban | 10.17 | 3.24 | 10.19 | -2.88 | 0.02 | -6.12 |
| Wetland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Woodland and forest | 0.12 | 0.48 | 0.19 | 0.80 | 0.07 | 0.32 |
| Intertidal sediment | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coastal saltmarsh | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rocky shore | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Coastal lagoons | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Intertidal Hard Structures | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.2.12 In addition, the Proposed Development fails 'trading rules' for the Medium distinctiveness habitats especially for scrub:

**Trading rules for Medium distinctiveness – extract from metric calculation for the Proposed Development**

| Medium Distinctiveness | | | | | |
|---|---|---|---|---|---|
| Habitat Group | Group | On site unit change | Off Site Unit Change | Project wide unit change | Cumulative Broad Habitat Change |
| Cropland - Arable field margins cultivated annually | Cropland | 0.00 | 0.00 | 0.00 | 0.00 |
| Cropland - Arable field margins game bird mix | Cropland | 0.00 | 0.00 | 0.00 | |
| Cropland - Arable field margins pollen & nectar | Cropland | 0.00 | 0.00 | 0.00 | |
| Cropland - Arable field margins tussocky | Cropland | 0.00 | 0.00 | 0.00 | |
| Cropland - Cereal crops winter stubble | Cropland | 0.00 | 0.00 | 0.00 | |
| Grassland - Other lowland acid grassland | Grassland | 0.00 | 0.00 | 0.00 | 6.41 |
| Grassland - Other neutral grassland | Grassland | 6.41 | 0.00 | 6.41 | |
| Grassland - Upland acid grassland | Grassland | 0.00 | 0.00 | 0.00 | |
| Heathland and shrub - Blackthorn scrub | Heathland and shrub | 0.00 | 0.00 | 0.00 | -5.00 |
| Heathland and shrub - Bramble scrub | Heathland and shrub | -0.43 | 0.00 | -0.43 | |
| Heathland and shrub - Gorse scrub | Heathland and shrub | 0.00 | 0.00 | 0.00 | |
| Heathland and shrub - Hawthorn scrub | Heathland and shrub | 0.00 | 0.00 | 0.00 | |
| Heathland and shrub - Hazel scrub | Heathland and shrub | 0.00 | 0.00 | 0.00 | |
| Heathland and shrub - Mixed scrub | Heathland and shrub | -4.57 | 0.00 | -4.57 | |
| Lakes - Ponds (Non- Priority Habitat) | Lakes | 0.06 | 0.00 | 0.06 | 0.06 |
| Lakes - Reservoirs | Lakes | 0.00 | 0.00 | 0.00 | |
| Sparsely vegetated land - Other inland rock and scree | Sparsely vegetated land | 0.00 | 0.00 | 0.00 | 0.00 |
| Urban - Brown roof | Urban | 0.19 | 0.00 | 0.19 | 0.19 |
| Urban - Cemeteries and churchyards | Urban | 0.00 | 0.00 | 0.00 | |
| Urban - Intensive green roof | Urban | 0.00 | 0.00 | 0.00 | |
| Woodland and forest - Other Scot's Pine woodland | Woodland and forest | 0.00 | 0.00 | 0.00 | -0.04 |
| Woodland and forest - Other woodland; broadleaved | Woodland and forest | -0.04 | 0.00 | -0.04 | |
| Woodland and forest - Other woodland; mixed | Woodland and forest | 0.00 | 0.00 | 0.00 | |
| Intertidal sediment - Littoral coarse sediment | Intertidal sediment | 0.00 | 0.00 | 0.00 | 0.00 |
| Intertidal sediment - Littoral sand | Intertidal sediment | 0.00 | 0.00 | 0.00 | |
| Intertidal Hard Structures - Artificial hard structures with Integrated Greening of Grey Infrastructure (IGGI) | Intertidal | 0.00 | 0.00 | 0.00 | |
| | | 1.61 | 0.00 | 1.61 | |

3.2.13 Both the unit loss and failed trading rules show that scrub enhancement or creation is the priority BNG measure.

3.2.14 It is understood that no further BNG measures on the EfW CHP Facility Site or third-party land holdings within the Order limits over and above those already proposed are likely to be possible. On that basis, off-site BNG provision would be required for the Proposed Development in area-based habitats units in ways that meet the trading rules.

**Table 3.7 Area-based units post-intervention**

| Broad habitat | Proposed habitat condition | Area (ha) | Distinctiveness | Proposed habitat condition | Strategic significance | Standard time to target condition (years) | Habitat created in advance (years) | Delay in starting habitat creation (years) | Final time to target condition (years) | Final difficulty of creation | Area-based units delivered | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Urban** | Brown roof | 0.003 | Medium | Good | High | 10 | 0 | 3 | 13 | Medium | 0.017 | EfW CHP Facility Site. | Building 1 on Outline Landscape and Ecology Strategy. |
| **Urban** | Brown roof | 0.029 | Medium | Good | High | 10 | 0 | 3 | 13 | Medium | 0.169 | EfW CHP Facility Site. | Building 25 on Outline Landscape and Ecology Strategy. |
| **Woodland and forest** | Wet woodland | 0.075 | High | Moderate | High | 15 | 0 | 3 | 18 | Medium | 0.365 | EfW CHP Facility Site. | Wet woodland creation. |
| **Grassland** | Other neutral grassland | 0.967 | Medium | Moderate | High | 5 | 0 | 3 | 8 | Low | 6.690 | EfW CHP Facility Site. | Cellular construction temporary laydown area (0.281ha) plus surrounding grassland (0.686ha). |
| **Lakes** | Ponds (Non-Priority Habitat) | 0.009 | Medium | Moderate | Low | 3 | 0 | 3 | 6 | Low | 0.058 | EfW CHP Facility Site. | Pond creation. |
| **Grassland** | Other neutral grassland | 0.009 | Medium | Moderate | High | 5 | 0 | 3 | 8 | Low | 0.062 | EfW CHP Facility Site. | Swale. |
| **Heathland and shrub** | Mixed scrub | 0.009 | Medium | Moderate | Low | 5 | 0 | 3 | 8 | Low | 0.054 | EfW CHP Facility Site. | Native/ornamental shrub mix. |
| **Urban** | Developed land; sealed surface | 3.097 | V.Low | N/A - Other | Low | 0 | 0 | 3 | 3 | Medium | 0.000 | EfW CHP Facility Site. | Buildings and hard standing roads. |
| **Grassland** | Modified grassland | 0.037 | Low | Moderate | Low | 4 | 0 | 3 | 7 | Low | 0.115 | Grid Connection | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.046 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 0.165 | Access Improvements. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.089 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 0.319 | Access Improvements. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.009 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 0.032 | Access Improvements. | Third-party land. Reinstated like-for-like. |
| **Urban** | Developed land; sealed surface | 0.028 | V.Low | N/A - Other | Low | 0 | 0 | 3 | 3 | Medium | 0.000 | Access Improvements. | Third-party land. Reinstated like-for-like. |
| **Urban** | Vegetated garden | 0.02 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.035 | Acoustic screening. | Third-party land. Reinstated like-for-like. |
| **Urban** | Vegetated garden | 0.009 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.016 | Acoustic screening. | Third-party land. Reinstated like-for-like. |
| **Urban** | Developed land; sealed surface | 0.489 | V.Low | N/A - Other | Low | 0 | 0 | 1 | 1 | Medium | 0.000 | CHP Connection. | Land beneath pipeline/maintenance access road. |
| **Grassland** | Other neutral grassland | 0.015 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.097 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Mixed scrub | 0.04 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.258 | CHP Connection. | Third-party land. Reinstated like-for-like. |

| Broad habitat | Proposed habitat condition | Area (ha) | Distinctiveness | Proposed habitat condition | Strategic significance | Standard time to target condition (years) | Habitat created in advance (years) | Delay in starting habitat creation (years) | Final time to target condition (years) | Final difficulty of creation | Area-based units delivered | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Heathland and shrub** | Mixed scrub | 0.007 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.045 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Mixed scrub | 0.007 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.045 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Bramble scrub | 0.007 | Medium | Poor | Low | 1 | 0 | 1 | 2 | Low | 0.026 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Mixed scrub | 0.022 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.142 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Mixed scrub | 0.059 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.381 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Woodland and forest** | Other woodland; broadleaved | 0.004 | Medium | Poor | Low | 5 | 0 | 1 | 6 | Low | 0.013 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Urban** | Developed land; sealed surface | 0.003 | V.Low | N/A - Other | Low | 0 | 0 | 1 | 1 | Medium | 0.000 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Mixed scrub | 0.02 | Medium | Moderate | Low | 5 | 0 | 1 | 6 | Low | 0.129 | CHP Connection. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.029 | Low | Moderate | Low | 4 | 0 | 2 | 6 | Low | 0.094 | Grid Connection. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.284 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 1.018 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.37 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 1.326 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 1.212 | Low | Moderate | High | 4 | 0 | 3 | 7 | Low | 4.345 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Bramble scrub | 0.032 | Medium | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.111 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Bramble scrub | 0.04 | Medium | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.139 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Heathland and shrub** | Bramble scrub | 0.035 | Medium | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.121 | Temporary Construction Compound. | Third-party land. Reinstated like-for-like. |
| **Urban** | Vegetated garden[33] | 0.011 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.019 | Water Connection. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.057 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.099 | Water Connection. | Third-party land. Reinstated like-for-like. |
| **Grassland** | Modified grassland | 0.042 | Low | Moderate | Low | 4 | 0 | 3 | 7 | Low | 0.131 | Water Connection. | Third-party land. Reinstated like-for-like. |

| Broad habitat | Proposed habitat condition | Area (ha) | Distinctiveness | Proposed habitat condition | Strategic significance | Standard time to target condition (years) | Habitat created in advance (years) | Delay in starting habitat creation (years) | Final time to target condition (years) | Final difficulty of creation | Area-based units delivered | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sparsely vegetated land** | Ruderal/Ephemeral | 0.018 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | 0.031 | Water Connection. | Third-party land. Reinstated like-for-like. |

*Linear units post-intervention*

3.2.15 The linear units generated at the post-intervention stage are presented in **Table 3.8 Linear units post-intervention Linear units post-intervention**.

3.2.16 Linear habitat creation post-works comprises the reinstatement of baseline habitats and creation of new areas/types of habitats following construction works. For example, there is tree planting where a section of line of trees would be cleared along the CHP Connection. There is also the inclusion of a new hedgerow with trees on the EfW CHP Facility Site.

3.2.17 The Proposed Development results in a loss of **-21.56% linear units**, which equates to a loss of **-1.02 linear units**. This loss represents lines of trees and hedgerows. A mix of native, species-rich hedgerows and lines of trees (in order to achieve higher distinctiveness linear habitats than the baseline) are the targets for achieving net gains in linear units:

**Linear habitat change in length (km) and value (units) – extract from the metric calculation for the Proposed Development**

| On site change by hedgerow type | | | | | | |
|---|---|---|---|---|---|---|
| | Baseline | | Post development on site | | Onsite Change | |
| Hedgerow type | Existing length on-site | Existing value | Proposed length on-site | Proposed value on-site | On-site length change | On-site Unit change |
| Native Species Rich Hedgerow with trees - Associated with bank or ditch | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Species Rich Hedgerow with trees | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Species Rich Hedgerow - Associated with bank or ditch | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Hedgerow with trees - Associated with bank or ditch | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Species Rich Hedgerow | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Hedgerow - Associated with bank or ditch | 0.11 | 1.27 | 0.00 | 0.00 | -0.11 | -1.27 |
| Native Hedgerow with trees | 0.00 | 0.00 | 0.16 | 0.91 | 0.16 | 0.91 |
| Line of Trees (Ecologically Valuable) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Line of Trees (Ecologically Valuable) - with Bank or Ditch | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Native Hedgerow | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Line of Trees | 0.43 | 1.17 | 0.36 | 0.94 | -0.06 | -0.24 |
| Line of Trees - Associated with bank or ditch | 0.57 | 2.26 | 0.46 | 1.85 | -0.10 | -0.42 |
| Hedge Ornamental Non Native | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

3.2.18 As for area-based habitats, it is understood that no further BNG measures on the EfW CHP Facility Site or third-party land holdings within the Order limits over and above those already proposed are possible. On that basis, off-site BNG provision would be required for the Proposed Development to achieve an increase in linear units.

### Table 3.8 Linear units post-intervention

| Habitat type | Length (km) | Distinctiveness | Proposed habitat condition | Strategic significance | Standard time to target condition (years) | Habitat created in advance (years) | Delay in starting habitat creation (years) | Final time to target condition (years) | Final difficulty of creation | Linear units delivered | Component of Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Native Hedgerow with trees** | 0.157 | Medium | Moderate | High | 10 | 0 | 3 | 13 | Low | 0.909 | EfW CHP Facility Site. | New hedgerow creation. |
| **Line of Trees** | 0.003 | Low | Moderate | Low | 20 | 0 | 1 | 21 | Low | 0.006 | CHP Connection. | Third-party land. Like-for-like reinstatement of only a minor length of habitat due to only part of the impacted line of trees being reinstated due to permanent habitat loss within the footprint of the Proposed Development. |

*River units post-intervention*

3.2.19 The river units generated at the post-intervention stage are presented in **Table 3.9 River units post-intervention River units post-intervention**.

3.2.20 The Proposed Development results in a loss of **-11.85% in river units**. This equates to a loss of **-0.21 units** and are from the culverting of on-site ditches.

3.2.21 Assuming no BNG measures are possible on the EfW CHP Facility Site or third-party land holdings within the Order limits, such as enhancing the ditches[34], then off-site BNG provision would be required to generate net gains in river habitats.

[34] It is assumed that it would not be feasible to achieve enhancement of ditches within the EfW CHP Facility Site or wider Order limits, or the required 30-year management period, due to the ditch management and maintenance responsibilities of the Internal Drainage Board.

**Table 3.9 River units post-intervention**

| River type | Length (km) | Distinctiveness | Proposed habitat condition | Strategic significance | Standard time to target condition (years) | Habitat created in advance (years) | Delay in starting habitat creation (years) | Final time to target condition (years) | Final difficulty of creation | Extent of watercourse encroachment | Extent of riparian zone encroachment | River units delivered | Component of the Proposed Development | Assessor comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Culvert** | 0.001 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | Major | No Encroachment | 0.001 | Access Improvements. | Culvert with road crossing. |
| **Culvert** | 0.039 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | Major | No Encroachment | 0.034 | EfW CHP Facility Site. | Culvert with road crossing. |
| **Culvert** | 0.027 | Low | Poor | Low | 1 | 0 | 3 | 4 | Low | Major | No Encroachment | 0.023 | EfW CHP Facility Site. | Culvert with road crossing. |

## 3.3 BNG modelling

3.3.1 Based on the assumption that no further on-site BNG measures on the EfW CHP Facility Site or third-party land holdings within the Order limits are possible, modelling was undertaken to identify possible off-site habitat creation and enhancement scenarios to achieve an increase in area-based, linear and river units while satisfying the trading rules.

3.3.2 It is noted that this represents a high-level estimation of possible off-site BNG measures. The feasibility of such habitat creation and enhancement should be fully assessed as part of detailed design.

### Area-based unit modelling

3.3.3 Assuming that off-site BNG provision would be in the same Local Planning Authority area, of low strategic significance, and would start the same year as habitat clearance on site, then the following off-site measures could achieve net gains in area-based units for the Proposed Development:

- **Enhancing** 1.5ha of mixed scrub from poor to good condition would generate approximately 14.40 area-based units resulting in 13.1% net gain; or
- **Creating** 1.2ha of mixed scrub (in good condition) from modified grassland (in poor condition) would generate approximately 10.08 area-based units resulting in 11.13% net gain.

3.3.4 If there is a delay between on-site habitat clearance and commencement of the off-site BNG measure, this would affect the amount of scrub enhancement or creation required. For example, a four-year delay would mean that approximately 0.2ha of further scrub enhancement or creation would be required (in addition to the numbers presented above) to achieve BNG.

### Linear unit modelling

3.3.5 Assuming that off-site BNG provision would be in the same Local Planning Authority (Host Authority) area and would start the same year as habitat clearance on site, then the following off-site measures could achieve net gains in linear units for the Proposed Development:

- **Enhancing** 0.3km of native hedgerow in poor condition, into native hedgerow with trees in good condition would generate approximately 2.70 linear units resulting in 23.05% net gain; or
- **Enhancing** 0.5km of native hedgerow in poor condition, into native hedgerow in good condition would generate approximately 2.67 linear units resulting in 13.98% net gain; or
- **Creating** 0.3km of native hedgerows with trees in good condition would generate approximately 1.77 linear units resulting in 15.92% net gain.

## River unit modelling

3.3.6 Assuming no on-site BNG measures are possible such as enhancing the ditches, then off-site BNG provision would be required. If off-site BNG measures are in the same Local Planning Authority (Host Authority) area and would start the same year as habitat clearance on site, then enhancing 0.15km of rivers or streams from poor to good condition would generate approximately 1.35 river units resulting in 13.36% net gain. However, it would be critical to assess the feasibility of such enhancements.

3.3.7 During the Examination, CCC and the Middle Level Commissioners have submitted representations requesting that off-site River units are first targeted at enhancing local water vole habitats within the Host Authority areas. The Applicant agrees to this principle.

# 4. Options for delivering BNG

## 4.1 Post-intervention on-site habitats

4.1.1 Post-intervention habitats would be managed in order to achieve the target type and condition set out in the project's Biodiversity Metric 3.0 calculation. This would be under a BNG Management and Monitoring Plan for a minimum of 30 years (for accordance with the proposed draft DCO BNG requirement (**Volume 3.1**)). This would be in line with the **Outline Landscape and Ecological Management Plan (Volume 7.7)** and would be based on adaptative management principles especially with regards to measures to adapt to climate change.

4.1.2 Management interventions should be guided by appropriate expert ecological advice throughout the 30-year management period. Ecological principles need to be applied so that the long-term habitat creation and enhancement included within the BNG assessment remain realistic and deliverable based on local conditions such as geology, hydrology, nutrient levels, etc. and the complexity of future management requirements. Good management practice does not, by itself, constitute restoration or enhancement, though reinstating certain management practices may contribute to achieving it, for example by improving condition.

## 4.2 Next steps and recommendations

4.2.1 In addition to habitat creation associated with the delivery of the **Outline Landscape and Ecology Strategy** (**Figure 3.14, Volume 6.3**) on the EfW CHP Facility Site, the Applicant has several options through which its commitment to delivering BNG could be achieved on-site (i.e., within the Order limits) and/or off-site, using any, or a combination of, the following:

- Agreements with third-party landowners/managers to manage land for a period of 30-years after completion of the works to achieve net gain across one or more habitats, by improving the habitat (or linear feature) distinctiveness and/or condition, preferably on land local to the EfW CHP Facility Site.
- Manage existing non-operational land that may be available within the Applicant's land holdings for a period of 30 years after completion of the works as described above.
- Purchase of land dedicated to be managed for BNG for a period of 30-years after completion of the works as described above.
- Agreements with local stakeholders such as the host authorities, the Natural Cambridgeshire nature partnership, or the local Wildlife Trust, to contribute to strategic local nature conservation initiatives.
- Input to a generic biodiversity offset scheme through the purchase of biodiversity units to deliver off-site BNG.
- River units to be targeted at local water vole habitat enhancement in the Host Authority areas.

4.2.2 A choice will therefore need to be made prior to the commencement of the Proposed Development as to the most appropriate delivery mechanism. This will include, but is not limited to, the need or not (as it is not yet a mandatory provision) to register the units claimed with Natural England.

4.2.3 The Applicant will make this choice once the BNG deficit is finalised at the detailed design stage post-consent, and pursuant to a DCO Requirement. It will confirm to the relevant host authority (local planning authority), in consultation with Natural England, how BNG is to be delivered.

4.2.4 The mechanisms for delivering BNG will be confirmed within an BNG Strategy (see **Annex C**).

# Annex A – Habitat condition assessments

## Table A.1 Baseline area-based habitat: detailed habitat condition assessments

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **1** | Grassland - Modified grassland | 0.037 | Moderate | Grassland Low | Fail. 2 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **2** | Urban - Developed land; sealed surface | 4.617 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **3** | Heathland and shrub - Mixed scrub | 0.001 | Poor | Scrub | Pass. 3+ woody species, none >75% cover | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. Poor edge constricted by adjacent habitats | Fail. No clearings, glades or rises | | | | | | | | |
| **4** | Urban - Developed land; sealed surface | 0.477 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **5** | Urban - Developed land; sealed surface | 0.049 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **6** | Grassland - Modified grassland | 0.046 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Physical damage evident from machinery | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **7** | Grassland - Modified grassland | 0.089 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Pass. Sward height is varied | Pass. No scrub present | Fail. Physical damage from manholes and concrete surfaces | Fail. Bare ground >5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **8** | Grassland - Modified grassland | 0.003 | Moderate | Grassland Low | Fail. 2 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **9** | Grassland - Modified grassland | 0.002 | Moderate | Grassland Low | Fail. 2 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **10** | Heathland and shrub - Bramble scrub | 0.027 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. Edge is not well developed | Fail. No clearings, glades or rises | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **11** | Grassland - Modified grassland | 0.009 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Pass. Sward height is varied | Pass. No scrub present | Fail. Physical damage from manholes and concrete surfaces | Fail. Bare ground >5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **12** | Urban - Developed land; sealed surface | 0.028 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **13** | Heathland and shrub - Mixed scrub | 0.008 | Poor | Scrub | Pass. 3+ woody species, none >75% cover | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. Poor edge constricted by adjacent habitats | Fail. No clearings, glades or rises | | | | | | | | |
| **14** | Grassland - Modified grassland | 0.013 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Physical damage evident from machinery | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **15** | Grassland - Modified grassland | 0.022 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **16** | Urban - Developed land; sealed surface | 0.007 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **17** | Urban - Vegetated garden | 0.02 | Poor | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **18** | Urban - Vegetated garden | 0.009 | Poor | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **19** | Urban - Developed land; sealed surface | 0.505 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **20** | Grassland - Other neutral grassland | 0.055 | Moderate | Grassland Med. High and V.High | Pass. 9+ species per m2 | Pass. Grassland growing tall by end of the summer and more dominant over underlying herbs | Pass. No bare ground. | Fail. No bracken but >5% of scrub encroaching onto grassland | Fail. Japanese knotweed present | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **21** | Urban - Developed land; sealed surface | 0.001 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **22** | Heathland and shrub - Mixed scrub | 0.145 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access | Fail. Buddleia present | Pass. Unable to access. Scrub edge assumed | Pass. Unable to access. Clearings assumed. | | | | | | | | |
| **23** | Heathland and shrub - Mixed scrub | 0.025 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access | Fail. Buddleia present | Pass. Unable to access. Scrub edge assumed | Pass. Unable to access. Clearings assumed. | | | | | | | | |
| **24** | Heathland and shrub - Mixed scrub | 0.024 | Moderate | Scrub | Fail, Two woody species only | Pass. Unable to access | Fail. Buddleia present | Pass. Well-developed edge with adjacent ephemeral strip | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **25** | Heathland and shrub - Bramble scrub | 0.027 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Fail. Buddleia present | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |
| **26** | Heathland and shrub - Mixed scrub | 0.082 | Moderate | Scrub | Fail. Single woody species | Pass. Good age range | Fail. Buddleia present | Pass. Well-developed edge present | Pass. Clearings present | | | | | | | | |
| **27** | Heathland and shrub - Mixed scrub | 0.218 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Good age range | Fail. Buddleia present | Pass. Clearings of scrub present through the middle. | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **28** | Woodland and forest - Other woodland; broadleaved | 0.014 | Poor | Woodland | 1 Point. Single age class - immature birch dominant | 3 Points. No significant browsing. | 1 Point. Scattered buddleia | 2 Points. 3-4 native tree shrub species | 3 Points. >80% native | 3 Points. Plantation with uniform rows and little temporary open space | 1 Point. No re-growth | 2 Points. Moderate mortality | 1 Point. No recognisable NVC community | 1 Point. Single story due to plantation | 1 Point. No veteran trees | 1 Point. <25% deadwood. | 2 Points. <20% damaged ground. Nutrient enrichment evident |
| **29** | Urban - Developed land; sealed surface | 0.01 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **30** | Heathland and shrub - Mixed scrub | 0.072 | Moderate | Scrub | Fail, Two woody species only | Pass. Good age range | Fail. Buddleia present | Pass. Clearings of scrub present through the middle. | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **31** | Heathland and shrub - Mixed scrub | 0.295 | Moderate | Scrub | Fail, Two woody species only | Pass. Good age range | Fail. Buddleia present | Pass. Clearings of scrub present through the middle. | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **32** | Heathland and shrub - Mixed scrub | 0.366 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access | Fail. Buddleia present | Pass. Clearings of scrub present through the middle. | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **33** | Heathland and shrub - Bramble scrub | 0.051 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Fail. Buddleia present | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |
| **34** | Heathland and shrub - Mixed scrub | 0.034 | Moderate | Scrub | Fail, Two woody species only | Pass. Unable to access | Fail. Buddleia present | Pass. Clearings of scrub present through the middle. | Pass. Clearings of scrub present through the middle. | | | | | | | | |
| **35** | Urban - Developed land; sealed surface | 0.011 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **36** | Heathland and shrub - Mixed scrub | 0.098 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access. | Fail. Buddleia present | Pass. Well-developed edge present | Pass. Clearings present | | | | | | | | |
| **37** | Heathland and shrub - Mixed scrub | 0.099 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access. | Fail. Buddleia present | Pass. Well-developed edge present | Pass. Clearings present | | | | | | | | |
| **38** | Heathland and shrub - Mixed scrub | 0.2 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Pass. Unable to access. | Fail. Buddleia present | Pass. Well-developed edge present | Pass. Clearings present | | | | | | | | |
| **39** | Urban - Developed land; sealed surface | 0.213 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **40** | Woodland and forest - Other woodland; broadleaved | 0.068 | Poor | Woodland | 1 Point. Single age class - immature birch dominant | 3 Points. No significant browsing. | 1 Point. Scattered buddleia | 2 Points. 3-4 native tree shrub species | 3 Points. >80% native | 3 Points. Plantation with uniform rows and little temporary open space | 1 Point. No re-growth | 2 Points. Moderate mortality | 1 Point. No recognisable NVC community | 1 Point. Single story due to plantation | 1 Point. No veteran trees | 1 Point. <25% deadwood. | 2 Points. <20% damaged ground. Nutrient enrichment evident |
| **41** | Woodland and forest - Other woodland; broadleaved | 0.007 | Poor | Woodland | 1 Point. Single age class - immature birch dominant | 3 Points. No significant browsing. | 1 Point. Scattered buddleia | 2 Points. 3-4 native tree shrub species | 3 Points. >80% native | 3 Points. Plantation with uniform rows and little temporary open space | 1 Point. No re-growth | 2 Points. Moderate mortality | 1 Point. No recognisable NVC community | 1 Point. Single story due to plantation | 1 Point. No veteran trees | 1 Point. <25% deadwood. | 2 Points. <20% damaged ground. Nutrient enrichment evident |
| **42** | Woodland and forest - Other woodland; broadleaved | 0.016 | Poor | Woodland | 1 Point. Single age class - immature birch dominant | 3 Points. No significant browsing. | 1 Point. Scattered buddleia | 2 Points. 3-4 native tree shrub species | 3 Points. >80% native | 3 Points. Plantation with uniform rows and little temporary open space | 1 Point. No re-growth | 2 Points. Moderate mortality | 1 Point. No recognisable NVC community | 1 Point. Single story due to plantation | 1 Point. No veteran trees | 1 Point. <25% deadwood. | 2 Points. <20% damaged ground. Nutrient enrichment evident |
| **43** | Woodland and forest - Other woodland; broadleaved | 0.015 | Poor | Woodland | 1 Point. Single age class - immature birch dominant | 3 Points. No significant browsing. | 1 Point. Scattered buddleia | 2 Points. 3-4 native tree shrub species | 3 Points. >80% native | 3 Points. Plantation with uniform rows and little temporary open space | 1 Point. No re-growth | 2 Points. Moderate mortality | 1 Point. No recognisable NVC community | 1 Point. Single story due to plantation | 1 Point. No veteran trees | 1 Point. <25% deadwood. | 2 Points. <20% damaged ground. Nutrient enrichment evident |
| **44** | Grassland - Other neutral grassland | 0.045 | Moderate | Grassland Med. High and V.High | Pass. 9+ species per m2 | Pass. Grassland growing tall by end of the summer and more dominant over underlying herbs | Pass. No bare ground. | Fail. No bracken but >5% of scrub encroaching onto grassland | Fail. Japanese knotweed present | | | | | | | | |
| **45** | Grassland - Modified grassland | 0.002 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Pass. Sward height is varied | Pass. Scattered scrub encroaching onto grassland but <20% of area | Fail. Damage from frequent ditch management | Pass. Bare ground <5% | Pass. No bracken | Pass. Undesirable species <5% | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **46** | Urban - Developed land; sealed surface | 0.139 | N/A - Other | Grassland Low | Pass. 6-8 species per m2 | Pass. Sward height is varied | Pass. Scattered scrub encroaching onto grassland but <20% of area | Fail. Damage from frequent ditch management | Pass. Bare ground <5% | Pass. No bracken | Pass. Undesirable species <5% | | | | | | |
| **47** | Grassland - Modified grassland | 0.069 | Moderate | Scrub | Fail. Single woody species | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |
| **48** | Heathland and shrub - Bramble scrub | 0.074 | Poor | Urban | Fail. Vegetation periodically cut | Fail. Vegetation has not grown up | Pass. No invasive non-native species | | | | | | | | | | |
| **49** | Urban - Vacant/derelict land/ bare ground | 0.036 | Poor | Urban | Fail. Vegetation periodically cut | Pass. Vegetation can grow up in places, providing a diverse range of flowering plant species | Pass. No invasive non-native species | | | | | | | | | | |
| **50** | Urban - Vacant/derelict land/ bare ground | 0.327 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Fail. Only mature shrubs | Pass. No invasive or non-native species | Fail. No access but well-developed edge is unlikely considering habitat restriction | Fail. No access but clearings, glades and rises are unlikely considering habitat restriction | | | | | | | | |
| **51** | Urban - Artificial unvegetated, unsealed surface | 2.668 | N/A - Other | Urban | Fail. Vegetation periodically cut | Pass. Vegetation can grow up in places, providing a diverse range of flowering plant species | Pass. No invasive non-native species | | | | | | | | | | |
| **52** | Heathland and shrub - Mixed scrub | 0.287 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward type is not varied - just tall grasses. | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **53** | Urban - Vacant/derelict land/ bare ground | 0.419 | Moderate | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **54** | Grassland - Modified grassland | 0.327 | Moderate | Scrub | Pass. Unable to access. 3+ species assumed | Fail. Only mature shrubs | Pass. No invasive or non-native species | Fail. No access but well-developed edge is unlikely considering habitat restriction | Fail. No access but clearings, glades and rises are unlikely considering habitat restriction | | | | | | | | |
| **55** | Urban - Developed land; sealed surface | 0.002 | N/A - Other | n/a - condition fixed at 'poor' | | | | | | | | | | | | | |
| **56** | Heathland and shrub - Mixed scrub | 0.137 | Moderate | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **57** | Grassland - Modified grassland | 0.575 | Poor | Grassland Low | Fail. <6 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Damage from constant mowing | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **58** | Grassland - Modified grassland | 0.166 | Poor | Grassland Low | Fail. <6 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Damage from constant mowing | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **59** | Grassland - Modified grassland | 0.029 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **60** | Urban - Developed land; sealed surface | 0.188 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **61** | Urban - Developed land; sealed surface | 0.157 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **62** | Sparsely vegetated land - Ruderal/Ephemeral | 0.061 | Moderate | Sparsely vegetated land | Fail. Appearance and composition do not closely<br><br>match the sparsely vegetated habitat type | Fail. Scrub >25% | Pass. Absence of invasive and non-native species | Pass. Cover of vascular plants between 5-50% | | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **63** | Urban - Vegetated garden | 0.035 | Poor | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **64** | Urban - Vegetated garden | 0.016 | Poor | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **65** | Sparsely vegetated land - Ruderal/Ephemeral | 0.114 | Moderate | Sparsely vegetated land | Fail. Appearance and composition do not closely match the sparsely vegetated habitat type | Fail. Scrub >25% | Pass. Absence of invasive and non-native species | Pass. Cover of vascular plants between 5-50% | | | | | | | | | |
| **66** | Grassland - Modified grassland | 0.115 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **67** | Grassland - Modified grassland | 0.284 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is varied | Pass. Little scrub <20% of area | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **68** | Grassland - Modified grassland | 0.37 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward type is not varied - just tall grasses. | Pass. Little scrub <20% of area | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **69** | Grassland - Modified grassland | 1.212 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward type is not varied - just tall grasses. | Fail. Frequent hawthorn and rose scrub | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **70** | Heathland and shrub - Bramble scrub | 0.032 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |
| **71** | Heathland and shrub - Bramble scrub | 0.04 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |
| **72** | Heathland and shrub - Bramble scrub | 0.035 | Poor | Scrub | Fail. Single woody species | Fail. Only young shrubs | Pass. No invasive or non-native species | Fail. No edge present | Fail. No clearings, glades or rises | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **73** | Cropland - Intensive orchards | 0.273 | N/A - Agricultural | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **74** | Grassland - Modified grassland | 0.015 | Moderate | Grassland Low | Fail. 2 species per m2 | Pass. Sward height is varied - mix of tall grasses and bare ground | Pass. No scrub present | Fail. Ground is excessively damaged by machinery | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **75** | Grassland - Modified grassland | 0.06 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. >5% ground is damaged | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **76** | Urban - Vegetated garden | 0.011 | Poor | n/a - Condition fixed at 'Poor' | | | | | | | | | | | | | |
| **77** | Grassland - Modified grassland | 0.011 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward type is not varied - just tall grasses. | Pass. No scrub present | Pass. No physical damage | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **78** | Grassland - Modified grassland | 0.042 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. >5% ground is damaged | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **79** | Sparsely vegetated land - Ruderal/Ephemeral | 0.018 | Poor | Sparsely vegetated land | Fail. Appearance and composition do not closely match the sparsely vegetated habitat type | Fail. Scrub >25% | Pass. Absence of invasive and non-native species | Pass. Cover of vascular plants between 5-50% | | | | | | | | | |
| **80** | Grassland - Modified grassland | 0.008 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Ground is excessively damaged by machinery | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **81** | Grassland - Modified grassland | 0.031 | Moderate | Grassland Low | Pass. 6-8 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Ground is excessively damaged by machinery | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |
| **82** | Urban - Developed land; sealed surface | 0.228 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |

| | | | | | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Ref** | **Area-based habitat type** | **Area (ha)** | **Assessed condition** | **Condition sheet** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** |
| **83** | Grassland - Modified grassland | 0.057 | Poor | Grassland Low | Fail. <6 species per m2 | Fail. Sward height is uniform due to regular mowing | Pass. No scrub present | Fail. Damage from constant mowing | Pass. Bare ground <5% | Pass. No bracken | Fail. Undesirable species >5% | | | | | | |

## Table A.2 Baseline linear habitat: detailed habitat condition assessments

| Ref | Linear habitat type | Length (km) | Assessed condition | Condition sheet | Condition criterion number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Line of Trees | 0.054 | Moderate | Line of Trees | Pass. All trees are native, mostly birch | Pass. Tree canopy is predominantly continuous | Fail. No mature or veteran trees | Fail. Housing immediately adjacent | Pass. >95% in healthy condition | | | |
| 2 | Line of Trees | 0.173 | Poor | Line of Trees | Fail. All trees are Leylandii - non-native | Pass. Tree canopy is predominantly continuous | Fail. No mature or veteran trees | Fail. Industrial estate immediately adjacent | Fail. Sided on north-western side | | | |
| 3 | Line of Trees | 0.046 | Poor | Line of Trees | Pass. All trees are native, mostly birch | Fail. Tree canopy is gappy | Fail. No mature or veteran trees | Fail. Industrial estate immediately adjacent | Pass. >95% in healthy condition | | | |
| 4 | Line of Trees | 0.012 | Moderate | Line of Trees | Pass. >70% trees are native | Pass. Tree canopy is predominantly continuous | Fail. No mature or veteran trees | Fail. Hardstanding immediately adjacent | Pass. >95% in healthy condition | | | |
| 5 | Line of Trees | 0.096 | Moderate | Line of Trees | Pass. >70% trees are native | Pass. Tree canopy is predominantly continuous | Fail. No mature or veteran trees | Fail. Hardstanding immediately adjacent | Pass. >95% in healthy condition | | | |
| 6 | Line of Trees - Associated with bank or ditch | 0.104 | Moderate | Line of Trees | Fail. All trees are hybridised black poplar - non native | Pass. Tree canopy is predominantly continuous | Fail. No mature or veteran trees | Fail. Hardstanding, managed ditches and earth bunds adjacent | Pass. >95% in healthy condition | | | |
| 7 | Line of Trees - Associated with bank or ditch | 0.032 | Moderate | Line of Trees | Fail. All trees are hybridised black poplar - non native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | Fail. Hardstanding, managed ditches and earth bunds adjacent | Pass. >95% in healthy condition | | | |
| 8 | Line of Trees - Associated with bank or ditch | 0.04 | Moderate | Line of Trees | Fail. All trees are hybridised black poplar - non native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | Fail. Hardstanding, managed ditches and earth bunds adjacent | Pass. >95% in healthy condition | | | |
| 9 | Line of Trees | 0.031 | Poor | Line of Trees | Fail. <70% trees are native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | Fail. Walsoken substation and roadside adjacent | Fail. Management for roadside access | | | |
| 10 | Line of Trees - Associated with bank or ditch | 0.111 | Moderate | Line of Trees | Pass. >70% trees are native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | Fail. Adjacent to road and managed grassland | Pass. >95% in healthy condition | | | |
| 11 | Line of Trees - Associated with bank or ditch | 0.279 | Moderate | Line of Trees | Pass. >70% trees are native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | Fail. Adjacent to road and managed grassland | Pass. >95% in healthy condition | | | |
| 12 | Line of Trees | 0.013 | Poor | Line of Trees | Fail. <70% trees are native | Pass. Tree canopy is predominantly continuous | Pass. >1 mature trees, no veterans | | Fail. Management for roadside access | | | |

| Ref | Linear habitat type | Length (km) | Assessed condition | Condition sheet | Condition criterion number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **13** | Native Hedgerow - Associated with bank or ditch | 0.106 | Good | Hedgerow | A1 Pass. >1.5m average height | A2 Pass. >1.5m width | B1 Pass. No gaps to base | B2 Pass. No gaps | C1 Fail. Adjacent ground is disturbed - ditch sides regularly maintained | C2 Pass. <20% undesirable perennial vegetation | D1 Pass. No invasive species | D2 Pass. >90% of the hedgerow is undisturbed - left to grow without management |

## Table A.3 Baseline river habitat: detailed habitat condition assessments

| Ref | Habitat type | Length (km) | Condition | Condition Sheet | Condition criterion number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| **1** | Rivers and streams - Ditches | 0.015 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Fail. Depth <50cm | Fail. >50% heavily shaded | Pass. No invasive or non-native species |
| **2** | Rivers and streams - Ditches | 0.001 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Pass. No physical damage evident | Fail. Depth 30cm | Fail. >10% heavily shaded | Pass. No invasive or non-native species |
| **3** | Rivers and streams - Ditches | 0.039 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |
| **4** | Rivers and streams - Ditches | 0.027 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |
| **5** | Rivers and streams - Ditches | 0.027 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |
| **6** | Rivers and streams - Ditches | 0.199 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |
| **7** | Rivers and streams - Ditches | 0.083 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Pass. <10% algae | Pass. >75% marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |
| **8** | Rivers and streams - Ditches | 0.052 | Poor | Ditch | Fail. Poor water quality | Fail. No emergent, submerged or floating plants | Fail. >10% algae | Fail. No marginal vegetation | Fail. Damage from machinery evident | Pass. >1m water depth | Pass. <10% of the ditch heavily shaded | Pass. No invasive or non-native species |

## Table A.4 Post-intervention area-based habitat: detailed proposed habitat condition assessments

| Ref | Proposed area-based habitat type | Area (ha) | Proposed condition | Condition sheet | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **1** | Urban - Brown roof | 0.003 | Good | Urban | Pass. A seed mix of early-colonising species grasses, flowers and herbs and taller wildflowers aim to provide a varied vegetation structure | Pass. The native seed mix aims to provide nectar sources for insects | Pass. Invasive non-native species will not be introduced | | | | | | | | | | |
| **2** | Urban - Brown roof | 0.029 | Good | Urban | Pass. A seed mix of early-colonising species grasses, flowers and herbs and taller wildflowers aim to provide a varied vegetation structure | Pass. The native seed mix aims to provide nectar sources for insects | Pass. Invasive non-native species will not be introduced | | | | | | | | | | |
| **3** | Woodland and forest - Wet woodland | 0.075 | Moderate | Woodland | 1 Point. All trees proposed to be planted will be 60-80cm in height. | 3 points. No significant browsing expected. The EfW CHP Facility Site will be inaccessible to large herbivores. | 3 Points. No invasive species will be planted. Spot treatment of invasive species spread by natural means can be adopted if/when applicable | 3 points. 8 native tree species proposed across woodland parcel. Only Viburnum opulus from the proposed planting plan is non-native | 3 Points. Only Viburnum opulus is non-native (10% cover) | 3 points. Trees planted at 2 metre centres. | 1 Point. Woodland re-generation unlikely given that saplings only will be planted | 3 Points. Trees proposed to be planted are uncommon to generate dieback. Pests and other disease can be managed accordingly | 1 Point. Proposed woodland has no recognisable NVC community | 1 Point. One storey likely to develop | 1 Point. No veteran trees proposed | 1 Point. <25% standing deadwood likely due to sapling plantation | 3 Points. No nutrient enrichment proposed |
| **4** | Grassland - Other neutral grassland | 0.967 | Moderate | Grassland Med. High and V.High | Pass. A seed mix containing 32 species is proposed including flowers, herbs and grasses. A range of species is chosen to | Pass. An annual mowing regime will be modified to produce a variation in sward length. Some areas can be left un-mown to encourage | Fail. Localised patches of bare ground is expected to form in higher-usage areas, especially at Laydown Area 36 where | Pass. Management regimes can aim to remove any scrub and bracken if present | Pass. No invasive or non-native species are proposed in the planting plan. Damaging levels of access to be <5% | | | | | | | | |

| Ref | Proposed area-based habitat type | Area (ha) | Proposed condition | Condition sheet | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | | | | maximise the chance of a species rich sward given that conditions may var around the proposed grassland. | regions of taller grasses. | vehicles can track into the sward. | | across the sward | | | | | | | | |
| **5** | Lakes - Ponds (Priority Habitat) | 0.009 | Moderate | Pond | Pass. Good water quality proposed. No pollutants to leach into the waterbody | Fail. Urban habitat within 10m of pond edge | Pass. Duckweed and algae to be managed | Fail. Pond connected to swale | Fail. Pond connected to swale via pipework | Pass. No non-native plant species proposed in planting. Management can be implemented to remove any non-native plants or animals that can be introduced naturally | Pass. Pond not to be artificially stocked with fish. | Pass. Plants can be introduced that cover shallower parts of the pond | Pass. Bankside can be managed so that the pond is <50% shaded | | | | |
| **6** | Grassland - Other neutral grassland | 0.009 | Moderate | | Pass. A wet seed mix containing 32 species is proposed including reeds, rushes, flowers, herbs and grasses. A range of species is chosen to maximise the chance of a species rich sward given that conditions may var around the proposed grassland. | Pass. An annual mowing regime will be modified to produce a variation in sward length. Some areas can be left un-mown to encourage regions of taller grasses. | Fail. Localised patches of bare ground is expected to form in higher-usage areas, where vehicles can track into the sward. | Pass. Management regimes can aim to remove any scrub and bracken if present | Pass. No invasive or non-native species are proposed in the planting plan. Damaging levels of access to be <5% across the sward | | | | | | | | |
| **7** | Heathland and shrub - Mixed scrub | 0.009 | Moderate | | Pass. 6 shrub species are proposed in the | Fail. Shrubs planted will be between 30-60cm in height. | Pass. Scrub will be managed to removed invasive | Pass. The scrub is proposed to have a well develop | Fail. No clearings, glades or rises are proposed. | | | | | | | | |

| Ref | Proposed area-based habitat type | Area (ha) | Proposed condition | Condition sheet | Condition criterion number | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| | | | | | planting plan | | species and undesirable vegetation, if/when applicable | edge to grade into the grassland. | | | | | | | | | |
| **8** | Urban - Developed land; sealed surface | 3.097 | N/A - Other | n/a - Condition fixed at 'N/A' | | | | | | | | | | | | | |
| **9** | Grassland - Modified grassland | 0.037 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **10** | Grassland - Modified grassland | 0.046 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **11** | Grassland - Modified grassland | 0.089 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **12** | Grassland - Modified grassland | 0.009 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **13** | Urban - Developed land; sealed surface | 0.028 | N/A - Other | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **14** | Urban - Vegetated garden | 0.02 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **15** | Urban - Vegetated garden | 0.009 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **16** | Urban - Developed land; sealed surface | 0.489 | N/A - Other | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **17** | Grassland - Other neutral grassland | 0.015 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **18** | Heathland and shrub - Mixed scrub | 0.04 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **19** | Heathland and shrub - Mixed scrub | 0.007 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **20** | Heathland and shrub - Mixed scrub | 0.007 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **21** | Heathland and shrub - Bramble scrub | 0.007 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **22** | Heathland and shrub - Mixed scrub | 0.022 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **23** | Heathland and shrub - Mixed scrub | 0.059 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **24** | Woodland and forest - Other woodland; broadleaved | 0.004 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |

| Ref | Proposed area-based habitat type | Area (ha) | Proposed condition | Condition sheet | Condition criterion number 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **25** | Urban - Developed land; sealed surface | 0.003 | N/A - Other | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **26** | Heathland and shrub - Mixed scrub | 0.02 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **27** | Grassland - Modified grassland | 0.029 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **28** | Grassland - Modified grassland | 0.284 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **29** | Grassland - Modified grassland | 0.37 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **30** | Grassland - Modified grassland | 1.212 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **31** | Heathland and shrub - Bramble scrub | 0.032 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **32** | Heathland and shrub - Bramble scrub | 0.04 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **33** | Heathland and shrub - Bramble scrub | 0.035 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **34** | Urban - Vegetated garden | 0.011 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **35** | Grassland - Modified grassland | 0.057 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **36** | Grassland - Modified grassland | 0.042 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |
| **37** | Sparsely vegetated land - Ruderal/Ephemeral | 0.018 | Poor | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | | | | |

## Table A.5 Post-intervention linear habitat: detailed proposed habitat condition assessments

| Ref | Proposed linear habitat type | Length (km) | Proposed condition | Condition sheet | Condition criterion number | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **1** | Native Hedgerow with trees | 0.157 | Moderate | Hedgerow | Pass. Hedgerow species will be planted at a height of 60-80cm. Species are expected to grow to >1.5m height within time to target condition | Pass. 6 hedgerow plants will be planted per m2. Plants are cumulatively expected to grow to >1.5m width within time to target condition | Pass. No gaps between the hedgerow and ground will be purposely created. The hedgerow will be planted and managed to minimise gaps to the hedge base | Pass. 6 hedgerow plants will be planted per m2 so chance of gaps forming along the length are minimised | Fail. Disturbed ground adjacent to the hedgerow for >10% of width | Fail. Undesirable species such as nettles, cleavers and docks are expected to be present on >20% of the undisturbed ground | Pass. >90% of the undisturbed ground and hedgerow is free of invasive and non-native species | >90% of the hedgerow or undisturbed ground is free of damage caused by human activities | Fail. No prosed mature trees within the hedgerow | Pass. >95% of hedgerow trees are expected to be in healthy condition |
| **2** | Line of Trees | 0.003 | Moderate | N/A – habitat reinstated like-for-like, so condition assessment followed baseline. | | | | | | | | | | |

## Table A.6 Post-intervention river habitat: detailed proposed habitat condition assessments

| Ref | Proposed river habitat type | Length (km) | Proposed condition | Condition Sheet |
|---|---|---|---|---|
| **1** | Culvert | 0.001 | Poor | N/A - condition fixed at 'Poor' for habitat type |
| **2** | Culvert | 0.039 | Poor | N/A - condition fixed at 'Poor' for habitat type |
| **3** | Culvert | 0.027 | Poor | N/A - condition fixed at 'Poor' for habitat type |

# Annex B – Biodiversity Metric 3.0 Calculation Tool

4.2.1 The Biodiversity Metric 3.0 Calculation Tool presented within this annex includes the post-intervention habitat creation/enhancement for the Proposed Development as-designed in line with the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)**. It does not include the BNG modelling options outlined in **Section 3.3**.

# Annex C – Outline Biodiversity Net Gain Strategy

4.2.1 The Applicant is committed to delivering a minimum of 10% Biodiversity Net Gain (BNG) for the Proposed Development. The provision of BNG will be secured by Requirement 6 of the **Draft DCO (Volume 3.1)**, which will require the Applicant to submit a BNG Strategy to be approved by the relevant planning authority, in consultation with the relevant statutory nature conservation body, Cambridgeshire County Council (CCC), Fenland District Council (FDC), Borough Council of King's Lynn and West Norfolk (KLWN), Norfolk County Council (NCC) and the Middle Level Commissioners (MLC), prior to the commencement of the authorised development. This Annex sets out the scope of the BNG Strategy and the Applicant must prepare the BNG Strategy for the Proposed Development in accordance with this scope, pursuant to Requirement 6 of the **Draft DCO (Volume 3.1)**.

## Baseline

4.2.2 The habitat baseline for the Proposed Development and calculation of associated baseline biodiversity units is set out in **Section 2.2** (Methodology) and **3.1** (Results) of **Appendix 11M Biodiversity Net Gain Assessment,** with habitat condition determined using the habitat condition assessment sheets from the Natural England Biodiversity Metric (see **Annex A**). The habitat baseline would be updated where necessary via pre-construction surveys to ensure it provides an accurate representation of the type and condition of habitats present prior to the commencement of the Proposed Development. The pre-construction surveys are set out in the Outline Ecological Mitigation Strategy within Appendix D of the **Outline Construction Environmental Management Plan (Volume 7.12)**, and secured via Requirement 10 of the **Draft DCO (Volume 3.1)**

4.2.3 An off-site habitat baseline would be provided where necessary (see **Section 4.4 Off-site BNG measures** below).

## BNG assessment

4.2.4 The preliminary BNG assessment of the Proposed Development is set out **Section 2** (Methodology) and **3** (Results) of **Appendix 11M Biodiversity Net Gain Assessment**, using the Natural England Biodiversity Metric to compare the baseline, impacts (i.e., habitat loss/change) and post-intervention (i.e., habitat creation and enhancement) to provide an early estimate of BNG for the Proposed Development as-designed at the Development Consent Order application submission stage.

## BNG assessment updates

4.2.5 The BNG assessment would be refined and updated through detailed design post-consent and at the end of construction using as-built data of habitat clearance and

landscaping to ensure the final BNG calculation is an accurate portrayal of the habitat change as result of the construction of the Proposed Development.

## Version of the Biodiversity Metric

4.2.6 The version of the Biodiversity Metric used in subsequent iterations of the BNG assessment will be kept under review in light of guidance by Natural England and approved by the relevant planning authority via the discharge of Requirement 6 of the **DCO (Volume 3.1).**

# Delivery of BNG

4.2.7 As outlined in **Section 4** of **Appendix 11M Biodiversity Net Gain Assessment**, the Applicant has several options through which its commitment to delivering BNG could be achieved on-site (i.e., within the Order limits) and/or off-site. The BNG delivery mechanism will follow a hierarchical approach, focussing:

- **firstly** on maximising on-site BNG measures;
- **secondly** on sites local to the Proposed Development where possible, and
- **thirdly** on delivering off-site BNG measures on sites of strategic biodiversity importance. .

4.2.8 The Applicant will outline the delivery mechanism(s) within the BNG Strategy once the change in biodiversity units is finalised at the detailed design stage post-consent, and the delivery mechanism would be updated and confirmed at the as-built stage following the respective updates to the BNG assessment.

## On-site BNG measures

4.2.9 The Applicant has taken steps to maximise the biodiversity units provided on-site within the EfW CHP Facility Site as shown on the **Outline Landscape and Ecology Strategy (Figure 3.14, Volume 6.3)** for the Proposed Development (to be secured by Requirement 4 of the **Draft DCO**). The on-site post-intervention change in biodiversity units set out in **Section 3.2** and **4.1** of **Appendix 11M Biodiversity Net Gain Assessment**.

4.2.10 As described above, the BNG assessment would be updated to calculate the on-site post-intervention change in biodiversity units at the detailed design and as-built stages, and would account for the final **Landscape and Ecology Strategy (Figure 3.14, Volume 6.3)**.

## Off-site BNG measures

4.2.11 Where there is a BNG deficit following on-site BNG measures, the Applicant will provide appropriate off-site BNG measures in order to achieve a total minimum of 10% BNG for the Proposed Development. The Applicant is in the process of identifying opportunities for delivering off-site BNG measures as set out in **Appendix 10.2C: Biodiversity Net Gain – Next Steps** which includes a record of stakeholder engagement.

4.2.12 Any off-site habitat measures (i.e., habitat creation or enhancement) would be supported by appropriate habitat surveys to determine the baseline habitat types and condition, and the BNG assessment would be updated to present habitat proposals and calculate change in biodiversity units. Any off-site habitat measures will need to fulfil the BNG trading rules, but would seek to accord with relevant local, regional and national strategic conservation priorities where possible, such as the Cambridgeshire and Peterborough Habitat Opportunity Mapping and the National Habitat Network which identify areas for strategic habitat creation.

4.2.13 The mechanisms and any associated legal agreements for securing the delivery of off-site BNG measures would be set out in the BNG Strategy.

### Registering biodiversity units

4.2.14 The Applicant would fulfil any mandatory requirements to register on and off-site biodiversity units with the relevant planning authority and/or statutory nature conservation body.

## Implementation, monitoring and management

4.2.15 Following initial habitat creation, on-site and off-site BNG habitat measures would be subject to a monitoring and management period which is a pre-requisite of BNG; to ensure habitats establish and maintain target condition. The period would continue for the operational lifetime of the Proposed Development which is beyond the 30 year period that is a pre-requisite of BNG. The regime for implementation, monitoring and managing on-site habitats included on the **Outline Landscape and Ecology Strategy (Figure 3.14 Volume 6.3)** is set out in the **Outline Landscape and Ecology Management Plan (Volume 7.7)** (to be secured by Requirement 5 of the **Draft DCO (Volume 3.1)**).

4.2.16 Where off-site BNG measures are to be provided, an appropriate accompanying strategy for habitat implementation, monitoring and management would be set out in the BNG Strategy.

### Sharing monitoring data

4.2.17 The Applicant would fulfil any mandatory requirements to share monitoring data with the relevant planning authority and/or statutory nature conservation body, and the intervals for sharing monitoring data would be set out in the BNG strategy.