Tillbridge Solar

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1. Introduction

1.1.1 AECOM were commissioned by Tillbridge Solar Limited (hereafter referred to as the 'Applicant') to undertake a Biodiversity Net Gain (BNG) assessment to inform the development consent order (DCO) application for the Tillbridge Solar Project (hereafter referred to as 'the Scheme'). The land within which the Scheme will be delivered and is therefore being assessed as part of this BNG assessment, is referred to as the 'BNG Parameters Plan' (hereafter referred to as 'the Site'). This area falls within the wider Order limits – an explanation for this approach is providing in Section 2.

1.1.2 The BNG assessment has been undertaken to quantify the overall effect of the Scheme upon the Site's biodiversity value. This is achieved by comparing the Site's baseline habitat value with that following implementation of the Scheme. Calculations consider the level of proposed habitat loss, retention, enhancement and/or creation delivered by the Scheme and are measured using DEFRA's Statutory Biodiversity Metric (Ref 1) in accordance with the User Guide (Ref 2) and best practice principles (Ref 3). The report sets out the results of the BNG assessment, including the methodology in Section 2, the results in Section 3, and the conclusions in Section 4.

1.1.3 This document has been updated to take into account changes made to the Scheme as part of the Change Application, submitted in September 2024. The document references have not been updated from the original submission. For the most up-to-date documents, the reader should access these through the **Guide to the Application [EN010142/APP/1.2 (Rev02)]** and Schedule 13 of the **Draft DCO [EN010142/APP/3.1(Rev02)].**

1.2 Site Description

1.2.1 The BNG assessment assesses areas within the Order limits, as shown by the BNG Parameters Plan (hereafter referred to as the 'Site') boundary on the 'Baseline Plan' (**Appendix A**), including the Principal Site (in which the solar arrays are located) and the Cable Route Corridor. The Principal Site is located approximately 5 kilometres (km) to the east of Gainsborough, Lincolnshire (within the administrative district of West Lindsey). The Cable Route Corridor tracks south of the Principal Site, east of Willingham by Stow, before heading west towards the River Trent and south of Gate Burton. The Cable Route Corridor crosses into Nottinghamshire (within the administrative district of Bassetlaw) before connecting to National Grid Cottam Substation.

1.2.2 The Scheme covers an area of 1,670 hectares (ha) and is dominated by arable fields, with the Principal Site covering 1,350 ha and the Cable Route Corridor Site covering 320 ha. The area that has been assessed for BNG is based on the **Indicative Principal Site Layout Plan** (**Figure 3-1** of **Chapter 3: Scheme Description** of the ES **[EN010142/APP/6.3]**) and covers a slightly smaller area, as explained in Section 2 of this report due to focussing the assessment on the illustrative construction right of way for the 400 kV high voltage export cable (to avoid overestimating the likely effects), and

covers an area of 1,424.52 ha . Numerous mature trees (including veterans) and hedges, woodlands, small wooded copses, and ditches are present within the Scheme. Areas surrounding the Scheme comprise mainly arable and improved grassland livestock fields.

1.3 The Scheme

1.3.1 The Scheme (presented in the 'Post-Development Plan' shown in **Appendix B**) will comprise the construction, operation (including maintenance), and decommissioning of ground-mounted solar photovoltaic (PV) arrays. The Scheme will also include associated development to support the solar PV arrays.

1.3.2 The Scheme is made up of the Principal Site, the Cable Route Corridor and works to the existing National Grid Cottam Substation. The Principal Site comprises the solar PV arrays, electrical substations, grid balancing infrastructure, cabling, and areas for landscaping and ecological enhancement.

1.3.3 The associated development element of the Scheme includes but is not limited to access provision; a Battery Energy Storage System (BESS) to support the operation of the ground mounted solar PV arrays; the development of on-site substations; underground cabling between the different areas of solar PV arrays; and areas of landscaping and biodiversity enhancement.

1.3.4 The Scheme also includes a 400 kV underground Cable Route Corridor of approximately 18.5 km in length connecting the Principal Site to the National Electricity Transmission System (NETS) at the existing National Grid Cottam Substation. The Scheme will export and import electricity to the NETS.

1.3.5 A full description of the Scheme is included in **Chapter 3: Scheme Description** of the Environmental Statement (ES) **[EN010142/APP/6.1]**. An overview of the Scheme and its environmental impacts is provided in the **Non-Technical Summary [EN010142/APP/6.4]**.

1.3.6 The Scheme will be operational for 60 years, after which it will be decommissioned. All infrastructure and components will be removed from the Site, except for areas of woodland, tree, and hedge planting (bar perhaps discrete areas needed for access widening, for example), along with the two Onsite Substations. The Application also allows the option for abandoning the buried cables in situ at the end of the Scheme, depending on the approach to be agreed with the host councils and statutory stakeholders in the Decommissioning Environmental Management Plan (a **Framework Decommissioning Environmental Management Plan (DEMP) [EN010142/APP/7.10]** has been submitted with the DCO Application).

1.4 Policy context

National Legislation

1.4.1 Government policy states that *"planning decisions should minimise impacts on and provide net gain for biodiversity"* (Ref 4).

1.4.2 As a Nationally Significant Infrastructure Project (NSIP), the Scheme will require consent via a Development Consent Order (DCO), which is not currently subject to mandatory BNG requirements. DCO applications will be required to achieve 10% net gain in biodiversity units relative to the Site's baseline biodiversity value by November 2025 under Section 98 and 99 of the Environment Act, 2021 (Ref 5).

1.4.3 Overarching National Policy Statement EN-1 (Ref. 6) states that "*Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, or the wider environment where possible".*

Local Planning Policy

1.4.4 The Central Lincolnshire Local Plan (Ref. 7) includes Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains which states:

"Following application of the mitigation hierarchy, all development proposals should ensure opportunities are taken to retain, protect and enhance biodiversity and geodiversity features proportionate to their scale, through site layout, design of new buildings and proposals for existing buildings with consideration to the construction phase and ongoing site management.

Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains then goes onto discuss the local requirement of *"10% measurable biodiversity net gain"* for "*all qualifying developments".* With the Scheme being a DCO, and therefore not a qualifying development *(As defined in The Environment Act 2021, Schedule 14, Part 2, Paragraph 17, Ref 5)*, there is no obligation to meet these local requirements.

Minimum BNG Requirement

1.4.5 There is currently no target BNG based on national or local policy, which equates to a 0% change.

1.4.6 Although not mandated for this NSIP, at a minimum, the Applicant is committed to providing a 10% net gain on a voluntary basis for the Scheme, in line with the approach to trading rules outlined in this report.

2. Methodology

2.1 Statutory Biodiversity Metric

2.1.1 The BNG assessment involves comparing the biodiversity value of habitats present within the Site before development (i.e., the 'baseline') and the predicted biodiversity value of habitats following the completion of the development (i.e., 'post-development'). The comparison is made in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.

2.1.2 The Statutory Biodiversity Metric (Ref. 1) (hereafter referred to as the 'Metric') calculates the overall loss or gain of biodiversity of development projects by assessing the distinctiveness (i.e., type of habitat and its value),

condition, extent, and strategic significance of habitats on site pre- and post-development, including both permanent and temporary land-take areas. To achieve BNG, the biodiversity unit score must have a post-development score higher than the baseline score.

2.1.3 When calculating the post-development biodiversity units, the Metric (Ref. 1) includes a series of standard 'risk multipliers' to account for the inherent risk of creating and restoring habitats, the time taken to establish habitats and the location of the mitigation in relation to the habitats lost on site. The risk multipliers reduce the value of the proposed habitats, which means larger areas, habitats of higher distinctiveness, and/or conditions are required to mitigate losses and achieve BNG.

2.1.4 The Metric is guided by the rules set out in **Table 1**.

Table 1. Metric Rules

Rule	Explanation
Rule 1 – Trading rules	The trading rules try to prevent the 'trading down' of habitat distinctiveness. Under the trading rules, habitat losses are to be compensated for on a "like for like" or "like for better" basis.
Rule 2 – The requirement to deliver at least a 10% net gain applies to each type of unit present on the Site	The Metric assesses and generates separate outputs for area-based habitats (measured in habitat units) and linear-based habitats, including hedgerows (measured in hedgerow units) and watercourses (measured in watercourse units). To claim a net gain in biodiversity, there must be an increase across all habitats, hedgerows, and river units. The units cannot be summed to give an overall biodiversity unit value; i.e., an increase in habitat and hedgerow units cannot offset a loss in watercourse units.
Rule 3 – Use of the Metric	Assessment must use the latest version of the Metric released by DEFRA.
Rule 4 – Exceptional circumstances required LPA engagement	In exceptional ecological circumstances, the relevant planning authority may permit deviation from the Metric methodology.

2.1.5 The information required to undertake the calculation is described below.

2.2 Assessment Boundary

2.2.1 The BNG assessment assesses the areas that fall within the BNG Parameters Plan (see Appendix A), otherwise referred to as the Site, instead of all areas within the Order limits. This approach is designed to focus on areas and habitats that are to be directly impacted by the Scheme and ensure that the proposed mitigation is proportionate to that impact. Therefore, areas that are not to be impacted to be excluded from the assessment (i.e. those areas where trenchless crossing methodology has been used to avoid impacts). This prevents the baseline habitat unit score

from being inflated by areas of habitat that are not to be impacted and, therefore, does not disproportionately increase the required mitigation.

2.2.2 All areas within the Principal Site are assessed as part of the BNG assessment. The above approach primarily applies to the Cable Route Corridor, the boundary for which is larger than the proposed impacts (allows for flexibility in design and route optioneering). The BNG assessment has based the assessment boundary for the BNG calculations within the Cable Route Corridor on the preferred cable alignment within that corridor and has assessed all areas within the proposed temporary fencing. This temporary fencing boundary has then been combined with the vegetation removal layer to gap fill in locations where temporary fencing is not proposed.

2.2.3 Should the preferred cable alignment change within the Cable Route Corridor as the design progresses, it is not anticipated that it would substantially change the overall conclusions of this assessment, as it is likely that neighbouring habitats will be of similar habitat types. The Applicant is committed to calculating the BNG in liaison with the host councils post-consent based on the detailed design once the alignment has been selected.

2.3 Terrestrial Baseline Data

2.3.1 Phase 1 Habitat data collected by AECOM between June and September 2022, with follow up surveys in June through until November 2023 (habitat condition data was collected during these follow up surveys), as detailed within **Chapter 9: Ecology and Nature Conservation** of the ES **[EN010142/APP/6.1]** have been utilised to determine the Site's baseline area-based, hedgerow and watercourse habitats. Arboricultural data collected by AECOM between August 2022 and January 2024 as detailed within **Appendix 12-7: Arboriculture Impact Assessment** of the ES **[EN010142/APP/6.2]** have been utilised to determine the Site's baseline tree data. This arboricultural data combined with the Phase 1 Habitat data is hereafter referred to as the 'baseline'. The baseline habitats were converted from standard Phase 1 Habitat types (Ref 8) to UKHab Classification categories (Ref 9) (**Appendix C.1**) before being digitised in the Geographic Information System (GIS) to provide area and length measurements of each habitat type.

2.3.2 A suitably qualified ecologist assigned a condition to all baseline habitats defined within the Site using the condition assessment criteria outlined in the Metric Technical Annex 1: Condition Assessment Sheets and Methodology (Ref. 10). The data was aggregated and entered into the Metric (Ref. 1) to calculate the baseline biodiversity units.

2.4 Watercourse Baseline Data

2.4.1 For rivers, habitat categories, associated distinctiveness, and condition scores have been defined as the Metric Technical Annex 1: Condition Assessment Sheets and Methodology (Ref 10). A desk study was undertaken to identify all watercourse habitats present within the Site using the 'Discovering Priority Habitat in England' river data map (Ref 11). Following this, water body habitats were assigned a habitat category (according to the criteria: Priority Habitat, Other Rivers and Streams,

Ditches, Canals, Culvert) and distinctiveness using Section 41 of the NERC Act's Priority Habitat descriptions (Ref 12).

2.4.2 Following the desk study, a scoping exercise was carried out to identify watercourses that are to be impacted by the Scheme, i.e., through culverting for access road crossings, open-cut crossings, and changes to the riparian zone. Only water bodies that have been assessed as being impacted by the Scheme have been included in this BNG assessment.

2.4.3 Watercourse crossings were given a "sensitivity classification" based on assessment of aquatic ecology receptors and the severity of potential impact from the Scheme. Only higher sensitivity water bodies with potential impacts from crossing points were surveyed. Water bodies with lower sensitivity were given a precautionary condition by way of a desk-based assessment of readily available information from previous surveys, as well as arial imagery.

2.4.4 Habitat classification, length measurement values, strategic significance, condition data and watercourse and riparian encroachment information were then inputted to the Metric to determine the baseline biodiversity units for watercourse habitats within the Site.

2.5 Post-Development Data

2.5.1 The Landscape Masterplan presented in the **Framework Landscape and Ecology Management Plan (LEMP) [EN010142/APP/7.17]** has been used to determine the extent and type of habitats to be lost, retained and/or created post-development. Habitats in the **Framework LEMP [EN010142/APP/7.17]** were converted to UKHab Classification categories (**Appendix C.2**) before being digitised into GIS to produce the 'Post-Development' Plan (**Appendix B**). Target condition scores for the proposed habitats were selected in accordance with the Metric User Guide (Ref. 2) using professional judgement to ensure the condition scores selected were realistic. The data was utilised to predict the post-development biodiversity units.

2.5.2 The majority of works within the Cable Route Corridor are temporary or involve avoiding impacts to habitats via trenchless crossing methods. It is intended that the majority of habitats will be either retained or reinstated post-construction. The Metric User Guide (Ref. 2) states "*Where a habitat is disturbed for a short period of time, it may be considered temporary loss if specific criteria are met. If these criteria are met, then the habitat may be recorded as 'retained' within the metric tool. The temporary loss option is only available for disturbed habitats that can be restored (in full) to their baseline condition (or better) within 2 years from the date of impact*". This is likely to apply to the Cable Route Corridor, but given the uncertainty at this stage and to take a worst case approach as the predicted construction period for the Scheme is anticipated to be 24 – 36 months, it is assumed temporary works within the Cable Route Corridor will not qualify for the 'retained' status within the Metric, and they will not be reinstated within a two-year time period. In this instance, temporarily lost habitats were inputted as 'lost' and subsequently 'created' within the Metric to accurately capture the timing of reinstatement.

2.6 Strategic Significance

2.6.1 The Metric (Ref. 1) requires that the strategic significance (hereafter referred to as 'SS') of all baseline and post-development habitats be defined. SS refers to strategic locations for local biodiversity and nature improvements, identified within local planning policies. The process of how the SS of a habitat is assessed is shown in **Table 2**.

Table 2. Strategic Significance Guidance

SS Category	Description
High	Where there is a published Local Nature Recovery Strategy (Ref 13) (LNRS) assign 'High' SS if: • The location of the habitat parcel has been mapped in the Local Habitat Map as an area where a potential measure has been proposed to help deliver the priorities of that LNRS; and, • The Scheme is consistent with the potential measure proposed for that location. OR • Where there is no published LNRS, but the habitat type is mapped and described as locally ecologically important within a specific location within documents specified by the relevant planning authority. • If the Scheme is proposed to contribute towards priorities or measures set out in the LNRS (or alternative strategy), assign 'Low' SS to the baseline habitat and 'High' SS to the proposed habitat.
Medium	This category cannot be applied where the LNRS is published, or where the habitat and location is included within other strategic documents specified by the relevant planning authority. Using professional judgement, assign 'Medium' SS if: • It can be explained how the habitat type is ecologically important within a specific location; and/or, • It can be demonstrated the importance of that habitat in providing ecological linkage to other strategically significant locations.
Low	Where the definitions for 'High' and 'Medium' strategic significance are not met. If the Scheme falls within a plan area, but either of the baseline or post-development habitats do not contribute to specific actions and priorities outlined in these plans, 'Low' SS should be assigned.

2.6.2 As part of this assessment, the following relevant documents were reviewed to determine the SS of the habitats on the Site:

a. Central Lincolnshire Local Plan – StatMap Aurora Online Mapping (Ref 14).

b. No biodiversity opportunity areas or similar are present within Nottinghamshire.

c. **Chapter 9: Ecology and Nature Conservation** of the ES **[EN010142/APP/6.1]**:

   i. Willingham to Fillingham Road Verges Local Wildlife Site (LWS);

   ii. Cow Pasture Lane Drains LWS; and

   iii. Upton Grange Road Verges LWS.

d. MAGIC (Ref 15).

2.6.3 Detailed information is presented in **Appendix D** on how SS has been assigned.

2.7 BNG Good Practice Principles for Development

2.7.1 Justification for how the BNG Good Practice Principles (Ref. 3) have been applied during this BNG assessment is provided in **Appendix E**.

2.8 Assumptions

2.8.1 In undertaking the calculation, the following assumptions have been made:

Area Based Habitats and Hedgerows

a. Habitats created as part of the Scheme will be subject to appropriate ongoing management as set out in the **Framework LEMP [EN010142/APP/7.17]** and will be monitored to ensure correct establishment and growth. Remedial action will be taken if this does not proceed as expected to achieve the target conditions in the specified timeframes according to the Metric.

b. Guidance published by Building Research Establishment recognises that on average 95% of a site used for solar farm development is "*still accessible for plant growth and potentially for wildlife enhancements and complementary agricultural activities such as conservation grazing*" (Ref 16). Therefore, 95% of the solar array footprint within the Site have been categorised as the 'Grassland – Modified grassland', with the remaining 5% categorised as 'Urban – Developed land; sealed surface' to take into account array infrastructure. This approach is understood to be supported by the Royal Society for the Protection of Birds (Ref 17).

c. Areas of modified grassland under panels have been assigned a post-development target condition of 'Poor' to acknowledge both the prolonged levels of shading these areas will receive over the Scheme's lifetime and the seed mixes and management prescriptions as specified in the **Framework LEMP [EN010142/APP/7.17]**.

d. Any loss of biodiversity units arising from temporary impacts within the Cable Route Corridor will be 'offset' within the Principal Site.

e. No time delay in habitat creation has been applied as works are expected to be completed between 24-36 months. However, this does

rule out the potential for ‘temporary impacts’ to habitats being considered as retained as habitats will be temporarily impacted for a period of longer than two years.

f. All baseline habitats of the same type and condition have been aggregated within the Metric due to the findings from the ecology survey concluding relative uniformity within habitat types across the Site.

g. Where temporary access points or visibility splays are proposed, hedgerows have been assumed to be lost and reinstated.

h. Where permanent access points or visibility splays are proposed, permanent hedgerow loss has been assumed.

i. The design of the Biodiversity Enhancement areas has not yet been defined; the details of these areas are to be finalised at a later design stage. For the purposes of this BNG assessment, these areas have been assigned habitats by percentage cover. This includes:

    i. 70.00% - Grassland – Other neutral grassland;

    ii. 12.50% - Woodland and forest – Other woodland; broadleaved;

    iii. 12.50% - Heathland and shrub – Mixed scrub;

    iv. 4.00% - Grassland – Lowland calcareous grassland; and,

    v. 1.00% - Lakes – Ponds (non-priority habitat).

j. Precautionary conditions of ‘Moderate’ have been assigned to all habitats proposed within the Biodiversity Enhancement areas.

Watercourse Habitats

2.8.2 The watercourse metric assessment was completed based on a worst-case scenario of impacts, which consisted of the following assumptions:

a. Culverts have been assessed as being permanent due to being in place for 24-36 months. If culverts are removed post-construction, it is proposed that a further BNG assessment of watercourses is undertaken, or this is updated during detailed design to ensure the baseline condition is representative of that at the time.

b. Trenchless crossing will be used for cable laying under the higher sensitivity waterbodies;

c. For the open cut crossings, a single trench will be installed. It is assumed that this trench would have a maximum width of 3.5 m.

d. Open cut crossings have been assessed as being permanent due to the works taking place for 24-36 months. Watercourses crossed by open cut methods will be fully reinstated following construction, so a further BNG assessment of these watercourses post-construction is proposed.

e. Watercourses that are crossed by trenchless crossing or other non-intrusive crossings have been scoped out of this assessment. It is assumed that any launch and receive pits for trenchless crossing and non-intrusive crossings will lie outside of the 10m riparian zone for rivers and 5 m riparian zone for ditches.

f. If there are no changes between the baseline and post-development riparian zone habitat for a watercourse, and there are no other impacts (culverts or open cut crossings), that watercourse has been scoped out of this assessment.

g. It is assumed that where post-development biodiversity enhancement areas are present within the riparian zones of watercourses, the riparian zone will be unmanaged post-development.

h. Where habitat condition has been assigned from desk-based assessment alone, i.e., for watercourses of low sensitivity, a reasonable precautionary approach has been adopted to prevent underestimating the value of the baseline habitat.

i. There are some watercourses within the Site which are not included within this BNG assessment as it is understood under the current design there will be no impacts to these ditches, watercourses, or their riparian zones (10 m from the bank-top on either side for rivers, or 5 m from the bank-top either side for ditches).

j. Some ditches were scoped out of the Metric assessment based on the assessment that they likely do not hold water for more than four months of the year (Ref. 2), and therefore, they are assessed as part of the adjacent area-based habitats or associated features.

k. If proposed lengths of enhancements are not adhered to, there is potential for a loss of watercourse habitat units.

2.9 Constraints or limitations

Area Based Habitats, Hedgerows and Watercourse Habitats

2.9.1 The following limitations also apply:

a. The total areas of the Principal Site and the Cable Route Corridor may vary slightly between the baseline and post-development data within the Metric. This difference is caused by the rounding of areas and lengths of individual habitats within the dataset to three decimal places. This has a negligible impact on the assessment as a whole due to the minor variation in area and lengths.

b. The BNG assessment has assessed the **Framework LEMP [EN010142/APP/7.17]**, which represents the minimum planting and a likely concept layout based on maximum parameters. The calculation will therefore be updated as part of the detailed design stage of the Scheme to reflect the final design, to demonstrate a minimum 10% BNG is achieved (based on the approach to trading rules outlined in this report) and with aspirations to improve the BNG outcome presented in this report. Any updates to habitat surveys required as part of this update will also be actioned at this point.

c. All habitat areas and lengths have been measured using ArcGIS based on the Phase 1 Habitat data (see **Chapter 9: Ecology and Nature Conservation** of the ES **[EN010142/APP/6.1]** for details) and the **Framework Landscape and Ecological Management Plan [EN010142/APP/7.17]**, as such habitat areas and lengths are approximations only.

d. Any habitats that were not assigned a condition during the field survey have been assigned condition based on their distinctiveness score. For example, ‘High’ distinctiveness habitats have been assigned ‘Good’ condition, ‘Medium’ distinctiveness habitats have been assigned ‘Moderate’ condition, and ‘Low’ distinctiveness habitats have been assigned ‘Poor’ condition.

e. The Arboricultural data (see **Appendix 12-7: Arboriculture Impact Assessment** of the ES **[EN010142/APP/6.2])** collected tree data in groups with no reference to the number of individual trees present within the group in some areas of the Site. In these situations, the root protection area of the group has been used as the area measurement for ‘Individual trees – Rural tree’ with an assumed condition of ‘Moderate’ assigned based on the distinctiveness of the habitat.

3. Results

3.1 Baseline Habitats

3.1.1 The Site for which this BNG assessment is based covers a total area of 1,419.18 ha. The habitats identified on-site vary in ecological value, ranging from ‘High’ to ‘V. Low’ distinctiveness. The most dominant habitat on site is ‘Cropland – Cereal crops’. A total of 66.06 km of hedgerow habitat are present on-site and 10.32 km of watercourse habitats on-site have been scoped into the assessment, all of which are classified as ’Ditches’. All other watercourses present on-site have been scoped out of the assessment as they will not be impacted. The ‘Baseline Habitat Plan’ is provided in **Appendix A**. Detailed descriptions of baseline habitats can be found within the **Chapter 9: Ecology and Nature Conservation** of the ES **[EN010142/APP/6.1]**. Details of habitat condition scores and associated data can be provided upon request.

Irreplaceable Habitat

3.1.2 Veteran trees are present on-site, these trees being of ‘Very Large’, ‘Large’ and ‘Medium’ size. These trees are not to be impacted by the Scheme. Details of these trees are provided in **Table 3**.

Table 3. Veteran Trees

Tree Size	Tree References
Very Large	T205, T280, T9, T73, T127, T367, T452, T494, T537, T554
Large	T288, T290, T297, T300, T347, T56, T57, T114, T882
Medium	T541

Baseline Habitats - SS

3.1.3 As outlined in Section 2.6, SS has been assigned to all baseline habitats present within the Site, as follows:

a. ‘High’ SS has been assigned to habitats if they fall within one of the following areas: the Lincolnshire Area of Great Landscape Value, or any of the local wildlife sites (Upton Grange Road Verges, Cow Pasture Lane Drains, Willingham to Fillingham Road Verges). These areas are considered strategically significant and thus meet the requirement for habitats achieving ‘High’ SS. The only exceptions to this are areas of ‘Urban – Developed land; sealed surface’ which have been assigned ‘Low’ SS;

b. ‘Medium’ SS has been assigned to habitats based on the potential value these habitats provide to protected species (in situations where these habitats fall with ‘High’ SS areas, ‘High’ SS has been assigned):

    i. Ground-nesting birds:

        1. Cropland – Arable field margin cultivated annually.
        2. Cropland – Cereal crops.

    ii. Great Crested Newts:

        3. Lakes – Ponds (non-priority habitat).

    iii. Bats:

        4. Woodland and forest – Lowland mixed deciduous woodland.
        5. Woodland and forest – Other woodland; broadleaved.
        6. Individual trees – Rural tree.

    iv. All hedgerow habitat types present on-site have been identified as providing important habitat connectivity throughout the Site.

c. ‘Low’ SS has been assigned to all habitats that are neither located within a strategically significant location nor provide value to protected species.

Baseline Habitat Units

3.1.4 The baseline biodiversity value was calculated as 3,301.17 units for area-based habitats, 571.14 units for hedgerow habitats and 59.05 for watercourse habitats. See **Appendix F** for further detail.

3.2 Post-Development Habitats

3.2.1 The **Framework LEMP [EN010142/APP/7.17]** includes the retention of 48.29 ha of baseline area-based habitat, the creation of 1,379.98 ha of area-based habitat and the enhancement of 0.33 ha of baseline area-based habitat. The habitats identified on the Site post-development vary in ecological value, ranging from ‘High’ to ‘V. Low’ distinctiveness.

3.2.2 A total of 5.71 km of hedgerow habitats will be lost due to the development of the Scheme, while 50.13 km will be retained in current condition. A total of 10.23 km of hedgerow habitats will be enhanced and 15.35 km of hedgerow habitats will be created.

3.2.3 A total of 0.10 km of watercourse habitats will be lost due to the construction of culverts and through open-cut crossings, while 1.55 km of watercourse

habitats will be retained in current condition. A total of 8.67 km of watercourse habitats will be enhanced, predominantly as a result of the reduction in riparian zone management along many of the watercourses scoped into the assessment. A further 0.05 km of culverts will be created.

3.2.4 The post-development habitats are shown on the 'Post-Development Habitat Plan' in **Appendix B**.

Post-Development Habitats – SS

3.2.5 SS has been assigned to post-development habitats following the same methodology as baseline habitats.

Retained Habitats

3.2.6 The habitats that are due to be retained within the Scheme are detailed in **Appendix F**. In total, 219.14 area-based habitat units, 455.35 hedgerow units, and 7.78 watercourse units are proposed to be retained.

3.2.7 Watercourses that are to be retained are those that were scoped into the assessment due to a change in riparian zone habitat from the baseline to the post-development scenario, but where this change does not result in a change to the riparian zone encroachment. Where the riparian zone encroachment does change, as a result of a change to the riparian habitat, this was recorded as enhanced due to the positive impact from removal of riparian encroachment.

Enhanced Habitats

3.2.8 The habitats due to be enhanced within the Scheme are detailed in **Appendix F.** In total, the proposed enhancements will result in the delivery of 2.46 area-based habitat units (uplift of 1.07 area-based habitat units), 107.19 hedgerow units (uplift of 40.65 hedgerow units) and 64.78 watercourse units (uplift of 13.92 watercourse units).

3.2.9 All watercourse enhancements are based on reduced management of the riparian zone, and therefore reduced riparian zone encroachment. There are no in-channel enhancements proposed.

Created Habitats

3.2.10 The habitats due to be retained within the Scheme are detailed in **Appendix F**. In total, 5,206.80 area-based habitat units, 107.28 hedgerow units and 0.04 watercourse units are proposed to be created.

3.2.11 Created watercourse habitats are a result of new culverts being created on several watercourses.

3.3 Summary of Results

3.3.1 All baseline habitats and habitats created and retained are present within the accompanying Metric (Ref. 1) assessment for the Scheme (**Appendix G**). A summary of the results is shown in **Table 4**.

Table 4. Summary of Results

Habitat Type	Baseline	Post-Development	Total Net Unit Change	Total Net % Change
Area-Based Units	3,301.17	5,428.40	+2,127.23	64.44%
Hedgerow Units	571.14	669.83	+98.69	17.28%
Watercourse Units	59.05	72.60	+13.55	22.94%

Trading Rules

Area-Based Habitats

3.3.2 For area-based habitats, the trading rules within the Metric (Ref. 1) are satisfied for ‘High’ and ‘Low’ distinctiveness habitats (see **Table 5**). However, ‘Medium’ distinctiveness habitats are currently not satisfied. This failure is caused by losses to ‘Cropland – Arable field margins cultivated annually’ and ‘Individual trees – Rural tree’. Despite the trading rules not being passed, qualitatively, it is deemed that the increased provision of proposed ‘Grassland – Other neutral grassland’ and ‘Woodland and forest – Other woodland; broadleaved’ provide similar functional benefits to ‘Cropland – Arable field margins cultivated annually’ and ‘Individual trees – Rural tree’. Therefore, the failure in ‘Medium’ distinctiveness habitats is recommended to be considered acceptable in this case. It is not deemed suitable to retain/create the ‘Cropland – Arable field margins cultivated annually’ when the Site will to be converted to a grassland / solar array mix and a margin habitat of ‘Grassland – Other neutral grassland’ is more suitable to this habitat composition. This would also not meet the objectives of the Scheme to deliver a solar energy project, if having to retain arable land to achieve the trading rules, which would miss an opportunity to provide renewable energy and offset greenhouse gas emissions from alternative energy sources.

3.3.3 Despite overall losses for ‘Low’ distinctiveness habitats, these losses are offset by gains in ‘Medium’ distinctiveness habitats.

Table 5. Trading Rules – Area-Based Habitats

Broad Habitat	Habitat Type	Distinctiveness Group	Trading Rule	Unit Change per habitat	Trading Satisfied?
Grassland	Lowland calcareous grassland	High	Same habitat required	+23.91	Yes
Woodland and forest	Lowland mixed deciduous woodland			0.00	
Cropland	Arable field margins cultivated annually	Medium	Same broad habitat or a higher distinctiveness habitat required	-42.31	No
Grassland	Other neutral grassland			+3021.43	
Heathland and shrub	Mixed scrub			+192.14	
Lakes	Ponds (non-priority)			+16.71	
Individual trees	Rural tree			-3.59	
Woodland and forest	Other woodland; broadleaved			+333.35	
Cropland	Cereal crops	Low	Same distinctiveness or better habitat required	-2678.93	Yes
Grassland	Modified grassland			+1272.19	
Sparsely vegetated land	Ruderal / ephemeral			-6.30	
Urban	Bare ground			-1.34	
Total	**-**	**-**	**-**	**+2127.23**	**-**

Hedgerow Habitats

3.3.4 For hedgerow habitats, the trading rules within the Metric (Ref. 1) are currently satisfied for each distinctiveness level (see **Table 6**).

Table 6. Trading Rules – Hedgerow Habitats

Habitat Group	Distinctiveness Group	Trading Rule	Unit Change	Trading Satisfied?
Species-rich native hedgerow with trees – associated with bank or ditch	V. High	Same habitat required	+19.34	Yes
Species-rich native hedgerow with trees	High	Like for like or better	-4.04	Yes
Species-rich native hedgerow – associated with bank or ditch			+3.46	
Native hedgerow with trees – associated with bank or ditch			+0.79	
Species-rich native hedgerow	Medium	Same distinctiveness or better habitat required	+73.47	Yes
Native hedgerow – associated with bank or ditch			-0.74	
Native hedgerow with trees			+3.27	
Native hedgerow	Low	Same distinctiveness or better habitat required	+4.79	Yes
Line of trees			+0.85	
Line of trees – associated with bank or ditch			-2.49	
Total	**-**	**-**	**+98.69**	**-**

Watercourse Habitats

3.3.5 For watercourse habitats, the trading rules within the Metric (Ref. 1) are currently satisfied for each distinctiveness level (see **Table 7**).

Table 7. Trading Rules – Watercourse Habitats

Habitat Group	Distinctiveness Group	Trading Rule	Unit Change per habitat	Trading Satisfied?
Ditches	Medium	Same habitat required =	+13.50	Yes
Culvert	Low	Better distinctiveness habitat required	+0.04	Yes
Total	**-**	**-**	**+13.55**	**-**

4. Conclusion

4.1.1 Based on the current plans for the Site, the Scheme is predicted to result in a net gain of 64.44% for area-based habitat units, 17.28% for hedgerow units, and 22.94% for watercourse units. The Scheme, therefore, is considered to exceed the BNG target of >0% BNG and the Applicant's commitment for 10% BNG for each habitat type despite the trading rules not being passed.

4.1.2 The outputs of the Metric (Ref. 1) depend on all created and enhanced habitats meeting the target conditions, subject to the criteria outlined within Metric User Guide (Ref. 2). Habitats would need to be monitored to ensure correct establishment and growth, and remedial action would need to be taken if this does not proceed as expected. Otherwise, the target conditions used in the calculations may not be met, and the predicted biodiversity units might not be achieved.

Appendix A Baseline Habitat Plan

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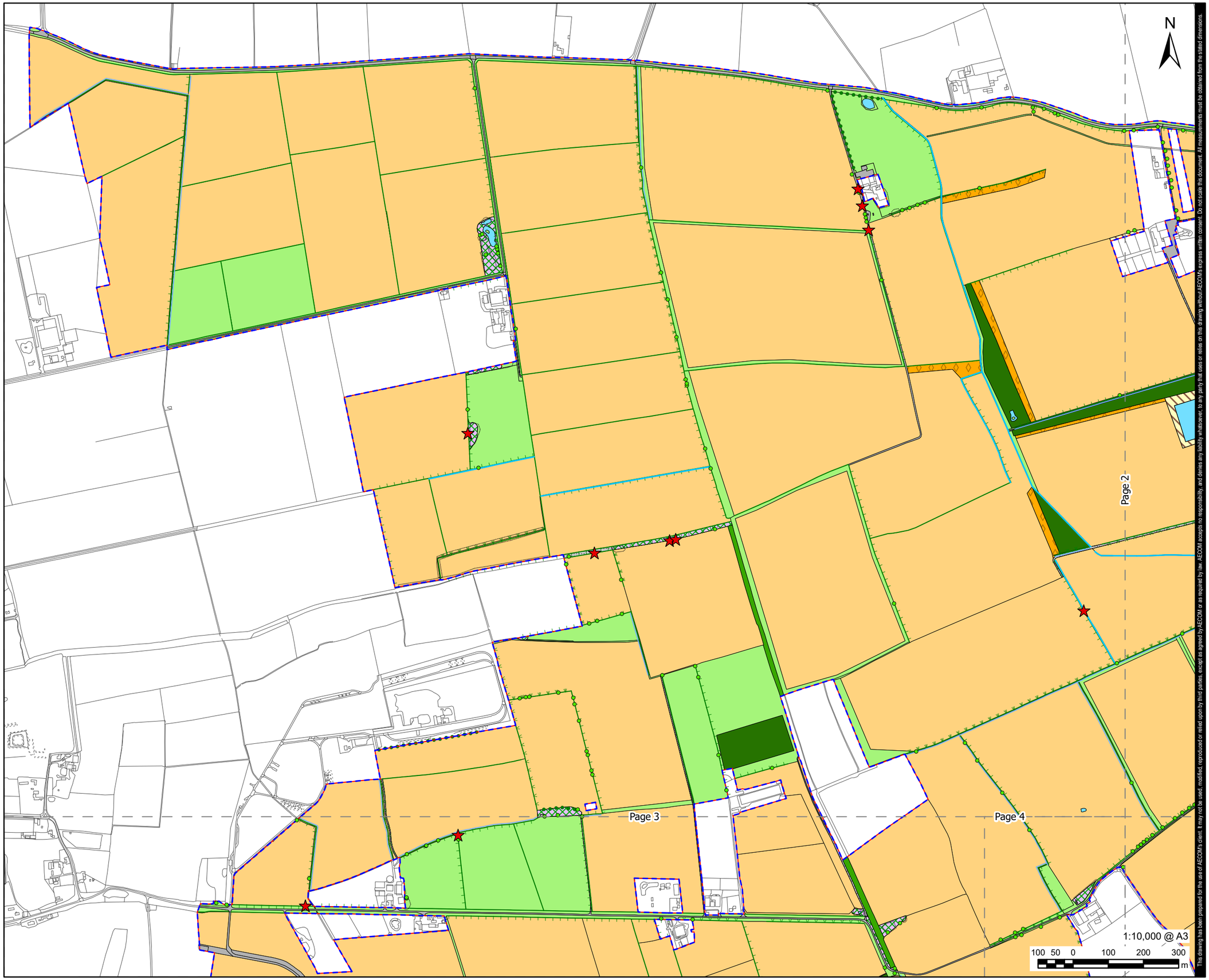

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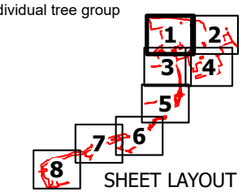
LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow
- Species-rich native hedgerow - associated with bank or ditch
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with bank or ditch
- Ditch
- Cropland - Arable field margins game bird mix
- Cropland - Cereal crops
- Grassland - Modified grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Sparsely vegetated land - Ruderal/ Ephemeral
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Lowland mixed deciduous woodland
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint
- Individual tree group



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Baseline Habitat
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Figure 1

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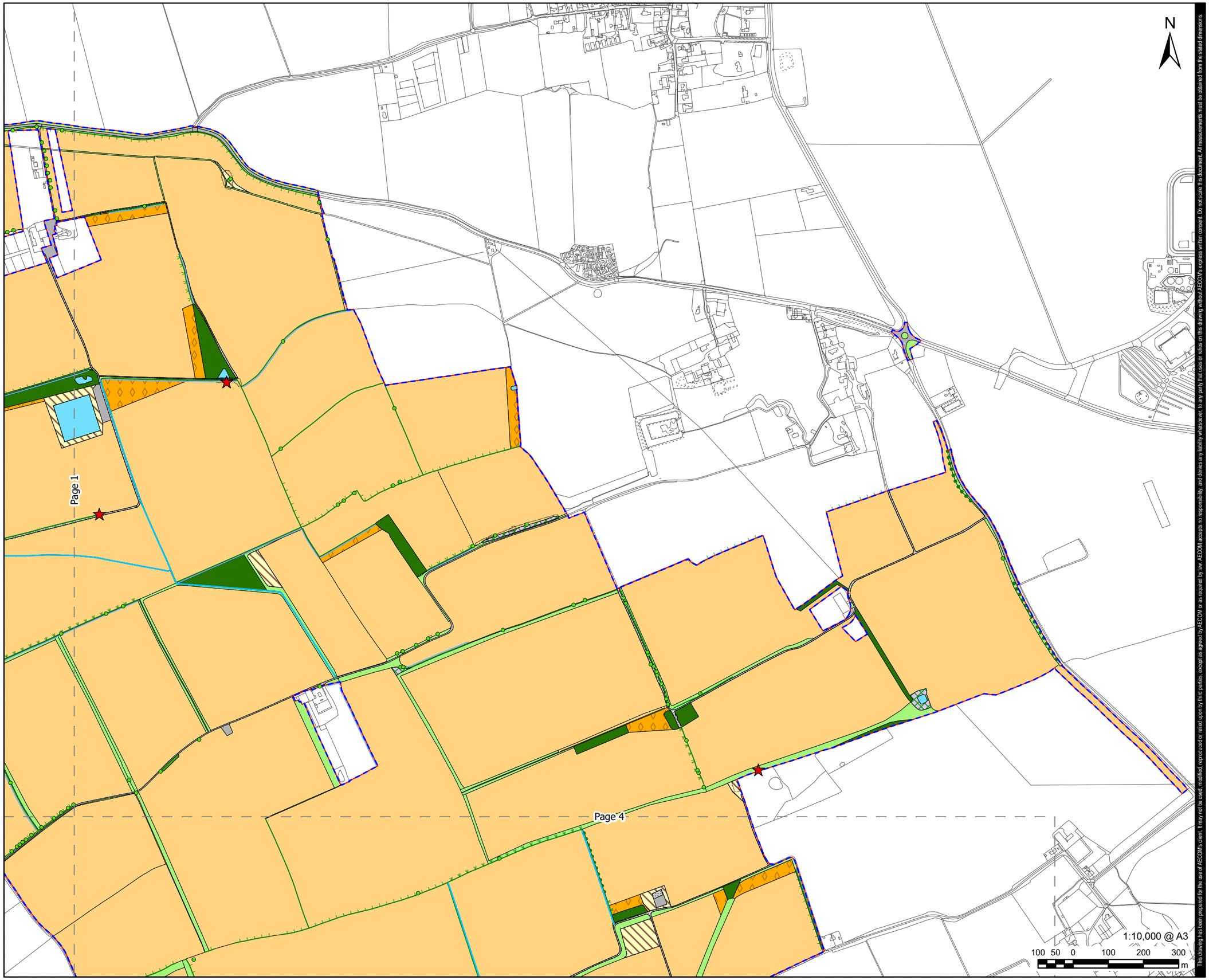

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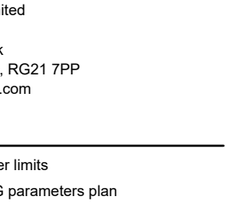
LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow
- Species-rich native hedgerow - associated with bank or ditch
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with bank or ditch
- Ditch
- Cropland - Arable field margins game bird mix
- Cropland - Cereal crops
- Grassland - Modified grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Sparsely vegetated land - Ruderal/ Ephemeral
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Lowland mixed deciduous woodland
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint
- Individual tree group



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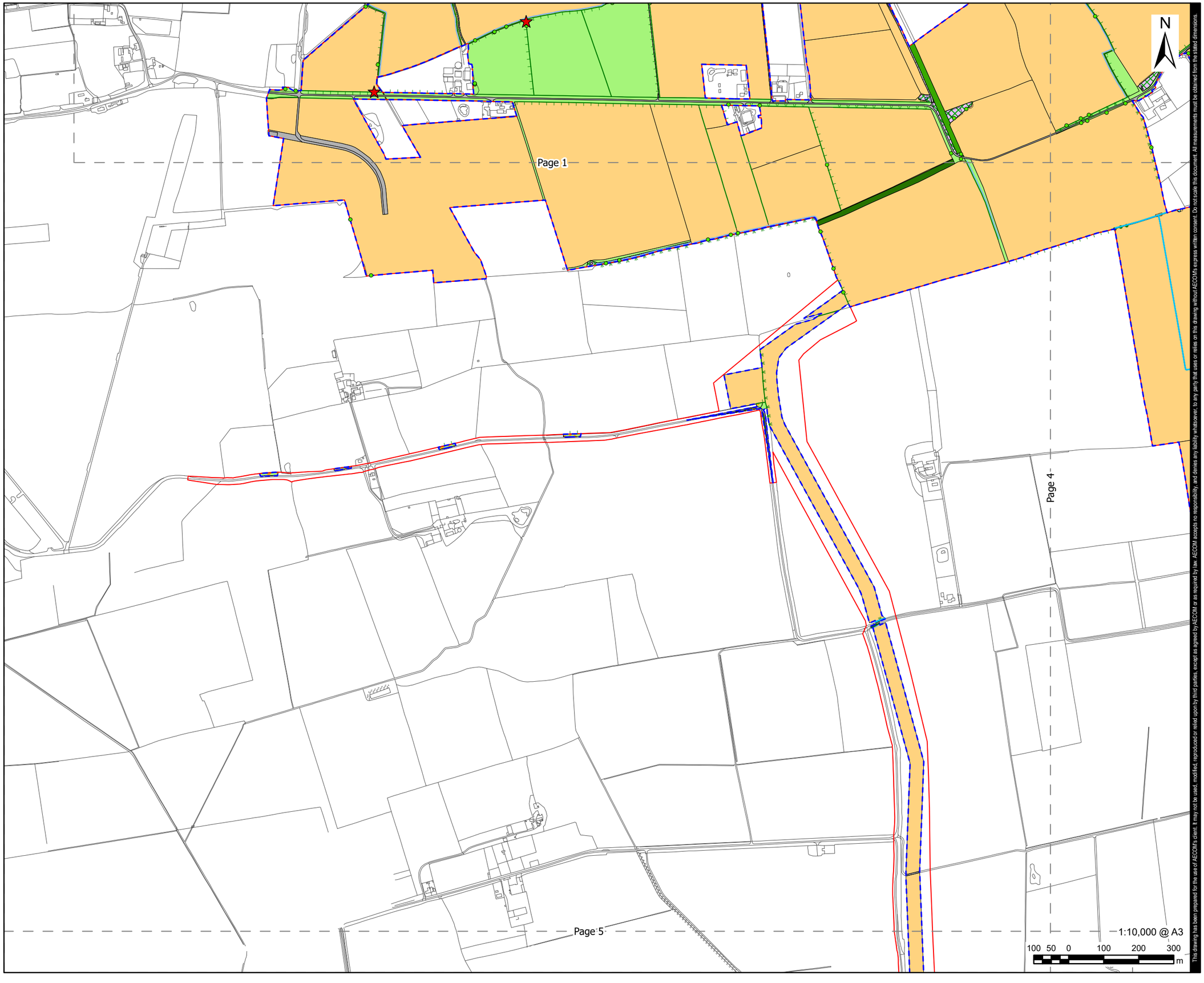

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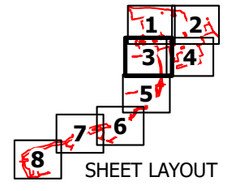
LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow
- Species-rich native hedgerow - associated with bank or ditch
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with bank or ditch
- Ditch
- Cropland - Cereal crops
- Grassland - Lowland calcareous grassland
- Grassland - Modified grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Lowland mixed deciduous woodland
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint
- Individual tree group



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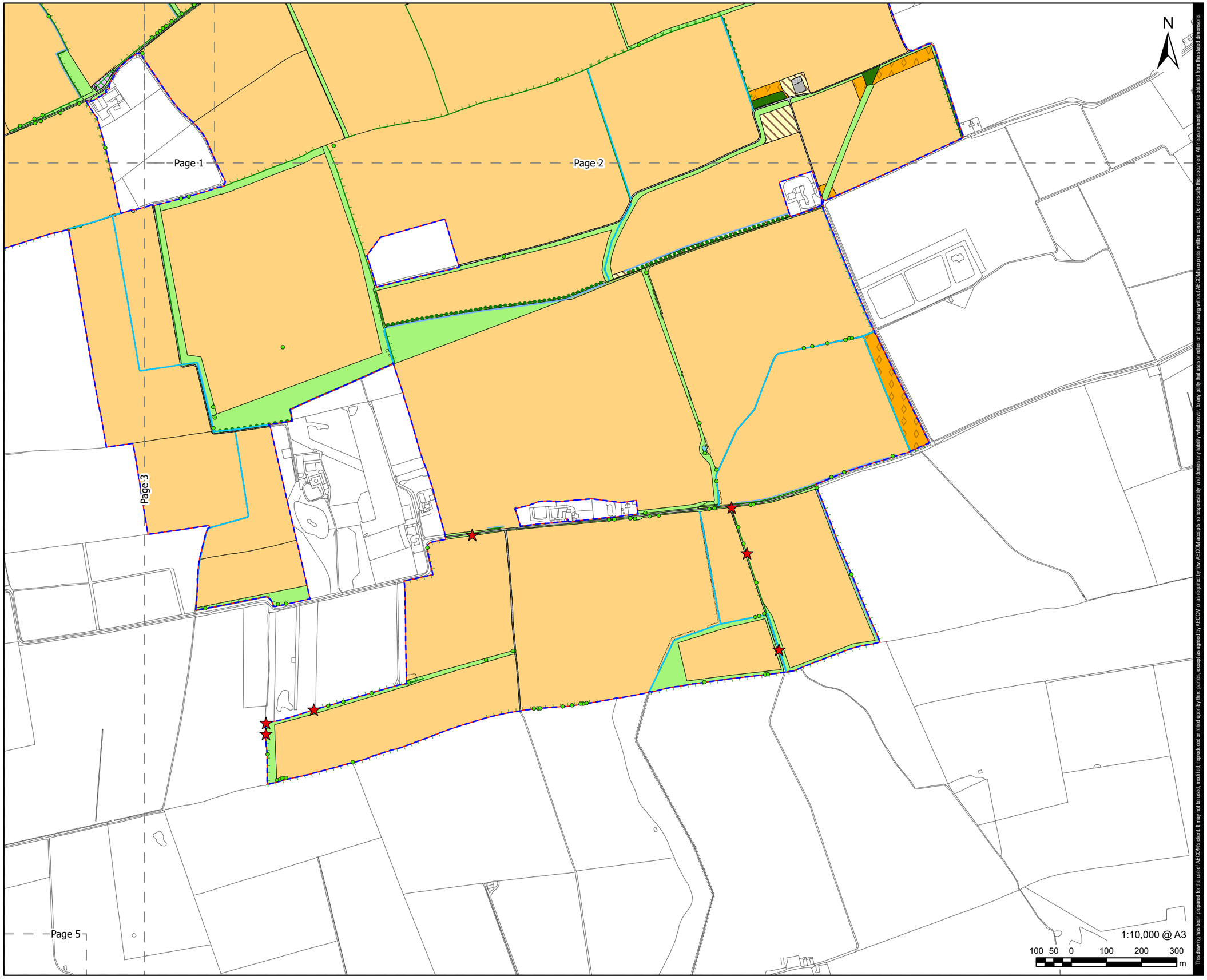

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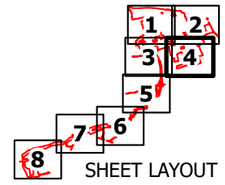
LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Line of trees - associated with bank or ditch
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow with trees
- Ditch
- Cropland - Arable field margins game bird mix
- Cropland - Cereal crops
- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Sparsely vegetated land - Ruderal/ Ephemeral
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint
- Individual tree group



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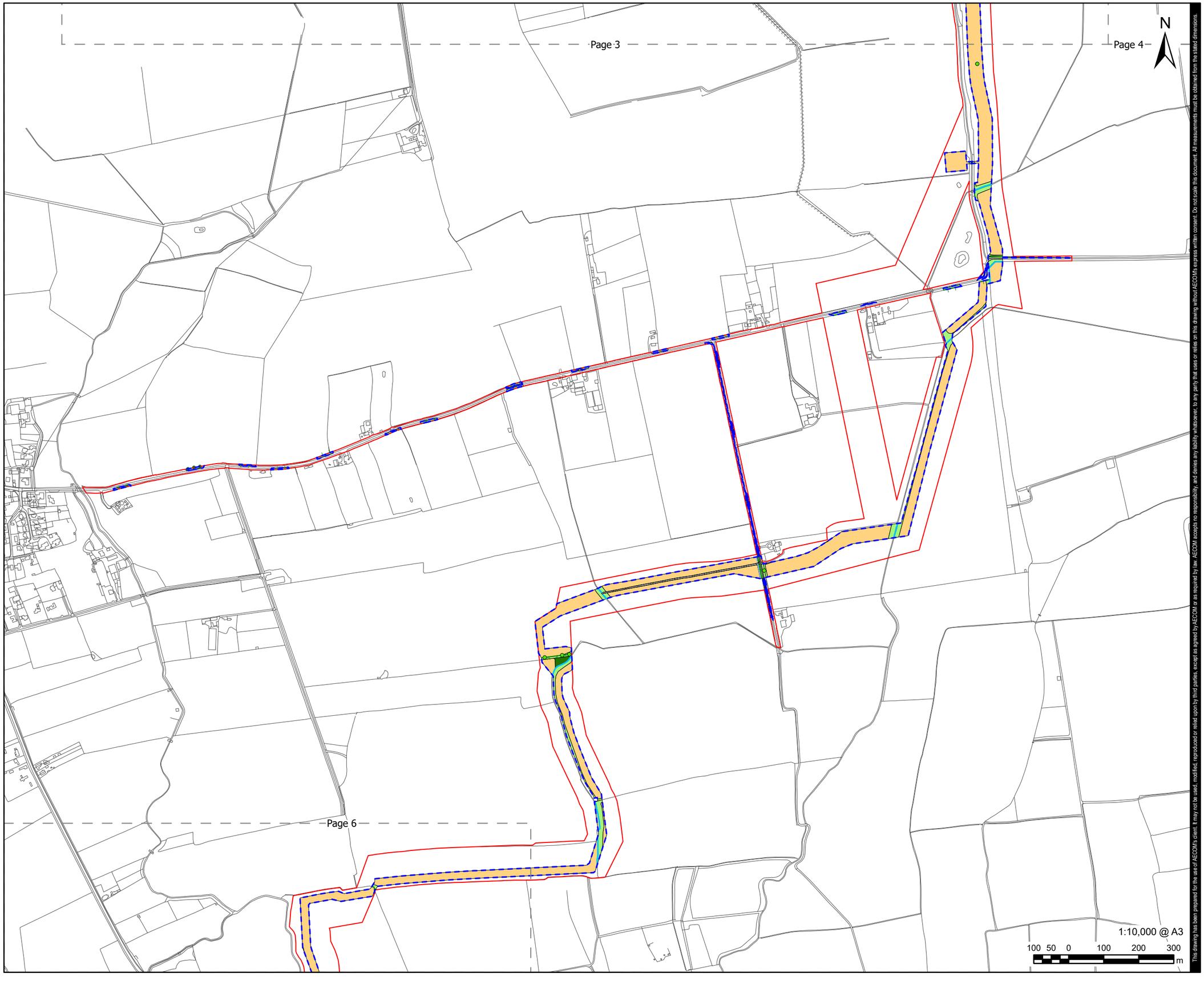

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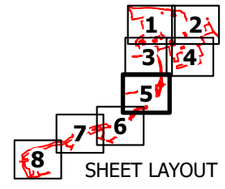
LEGEND

- Order limits
- BNG parameters plan

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow
- Species-rich native hedgerow with trees
- Ditch
- Cropland - Cereal crops
- Grassland - Modified grassland
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint



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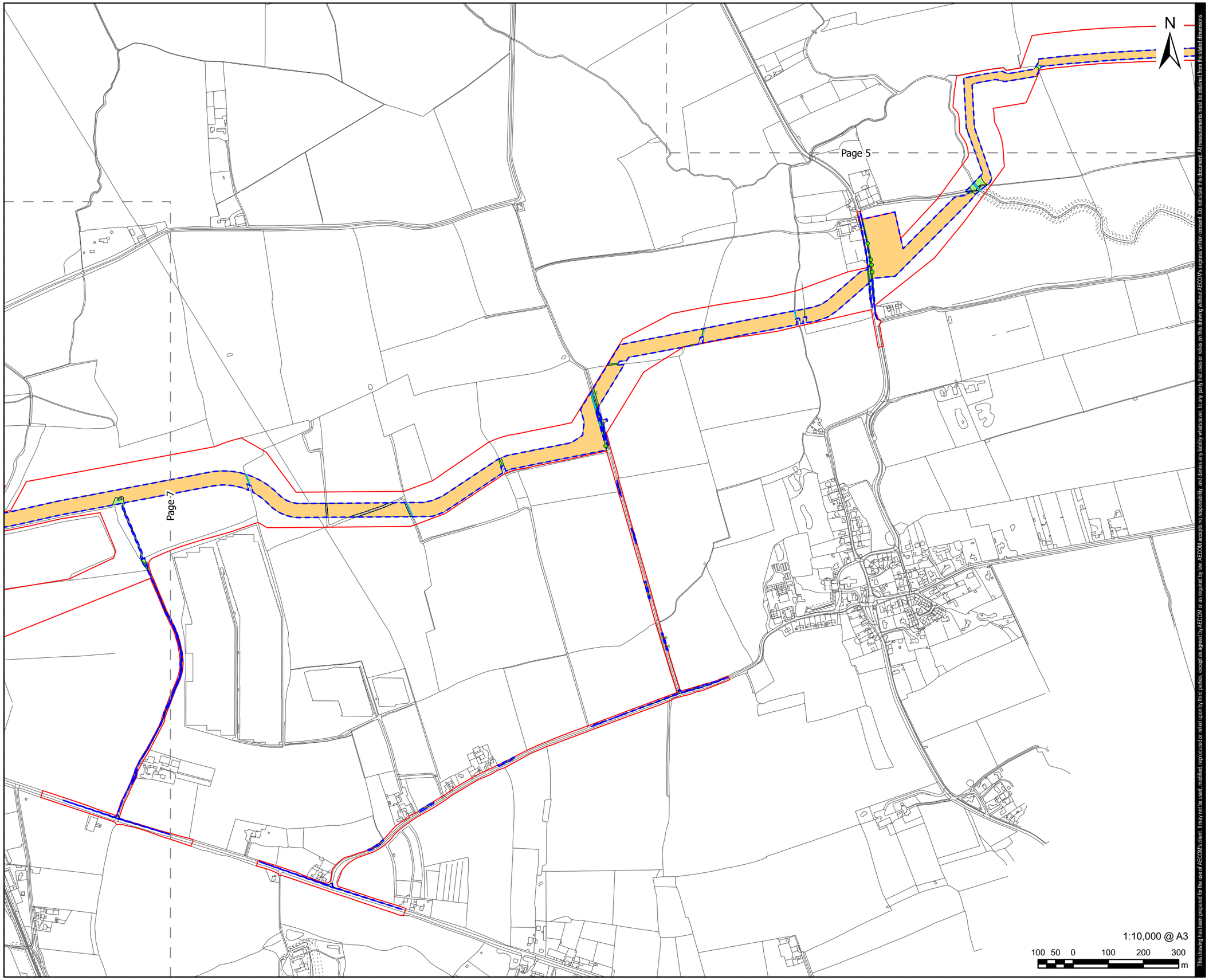

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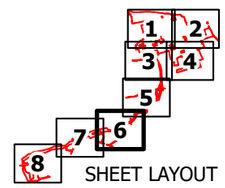
LEGEND

- Order limits
- BNG parameters plan

UK Habitat Type

- Rural tree
- Native hedgerow
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow - associated with bank or ditch
- Species-rich native hedgerow with trees
- Ditch
- Cropland - Cereal crops
- Grassland - Modified grassland
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Watercourse footprint



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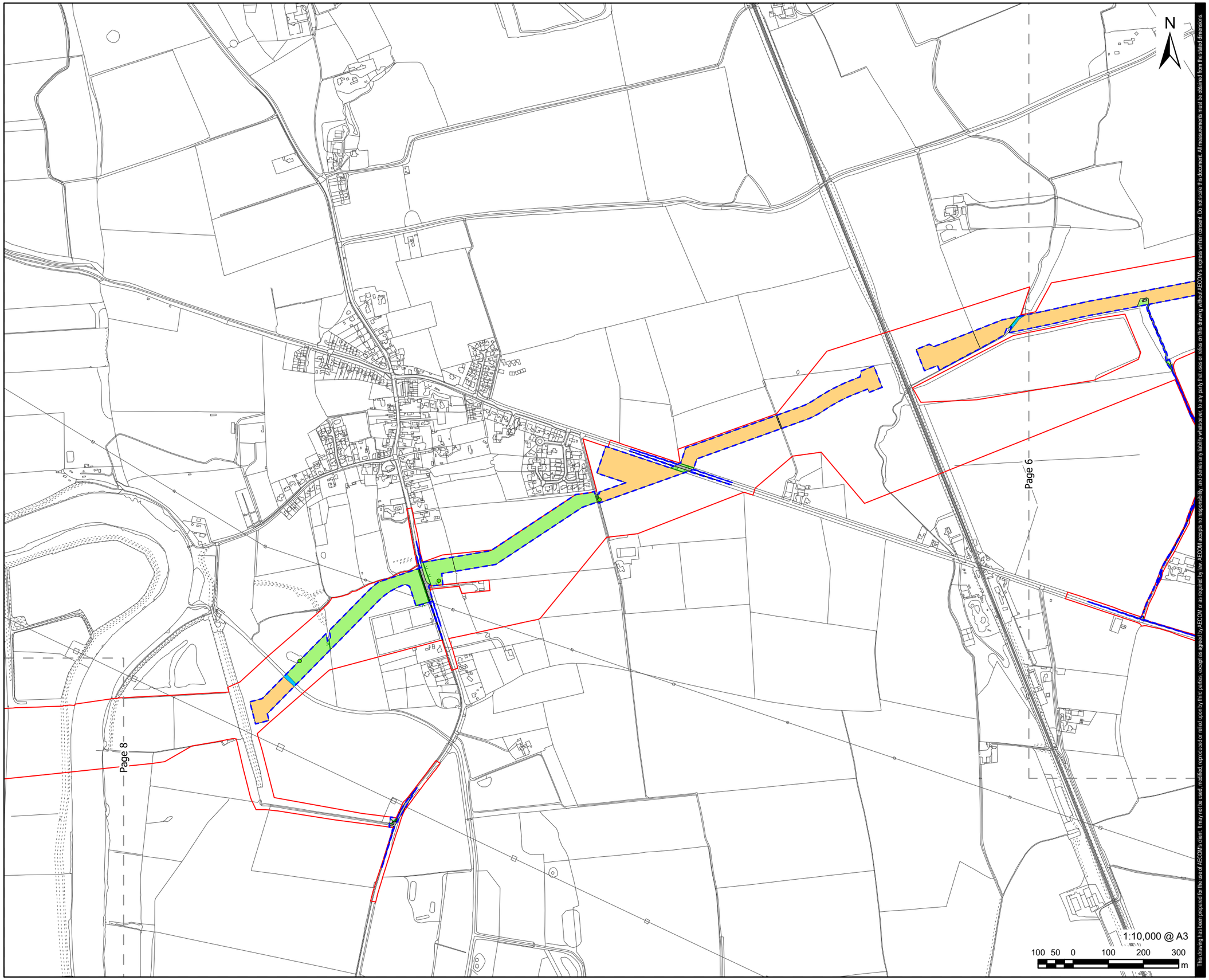

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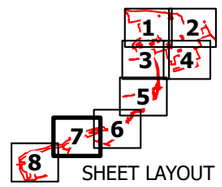
LEGEND

- Order limits
- BNG parameters plan

UK Habitat Type

- Rural tree
- Native hedgerow
- Native hedgerow with trees
- Species-rich native hedgerow
- Ditch
- Cropland - Cereal crops
- Grassland - Modified grassland
- Heathland and shrub - Mixed scrub
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Watercourse footprint



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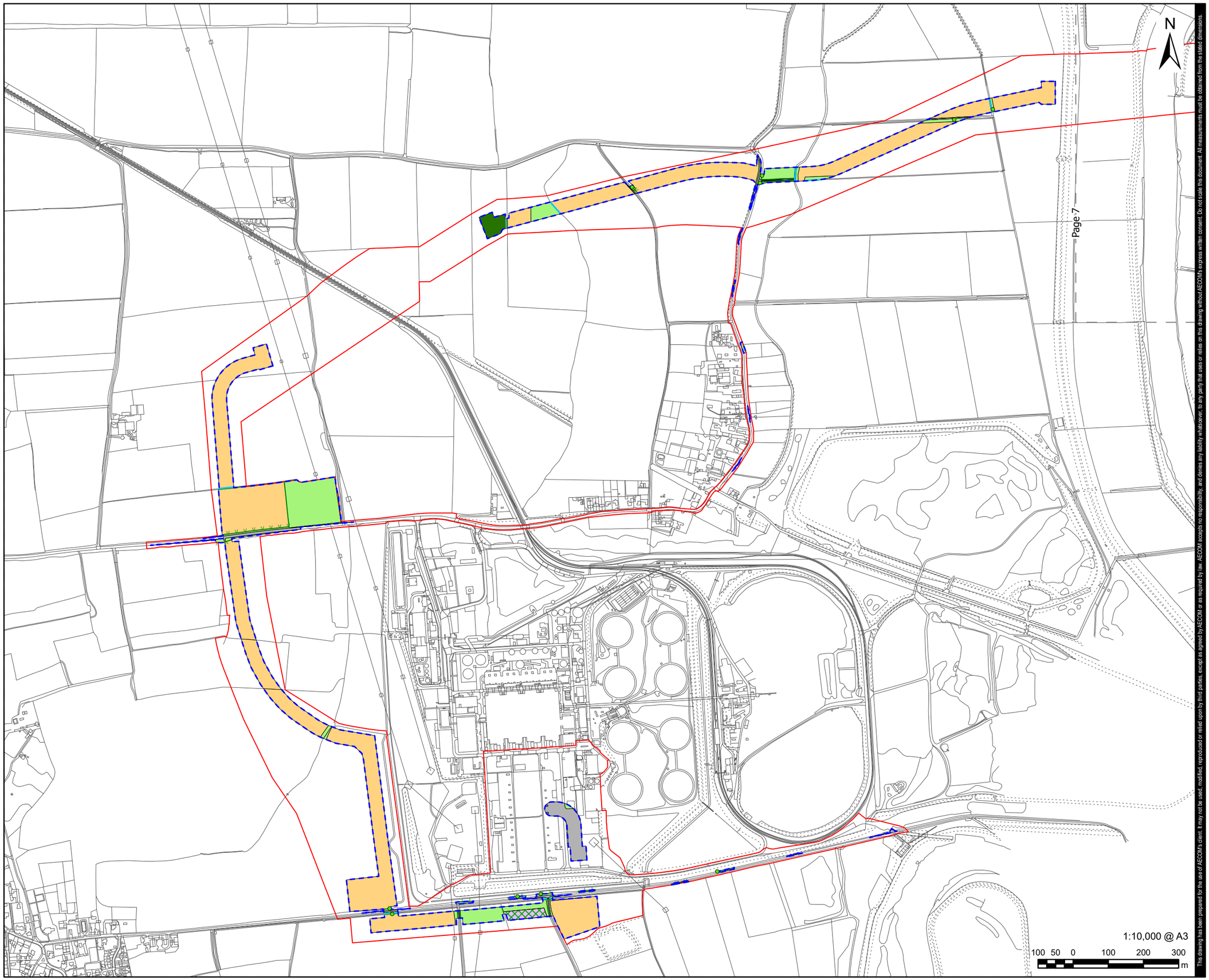

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LEGEND

- Order limits
- BNG parameters plan

UK Habitat Type

- Rural tree
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Species-rich native hedgerow
- Culvert
- Ditch
- Cropland - Cereal crops
- Grassland - Modified grassland
- Heathland and shrub - Mixed scrub
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint

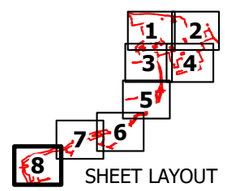

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Figure 1

Appendix B Post-Development Habitat Plan

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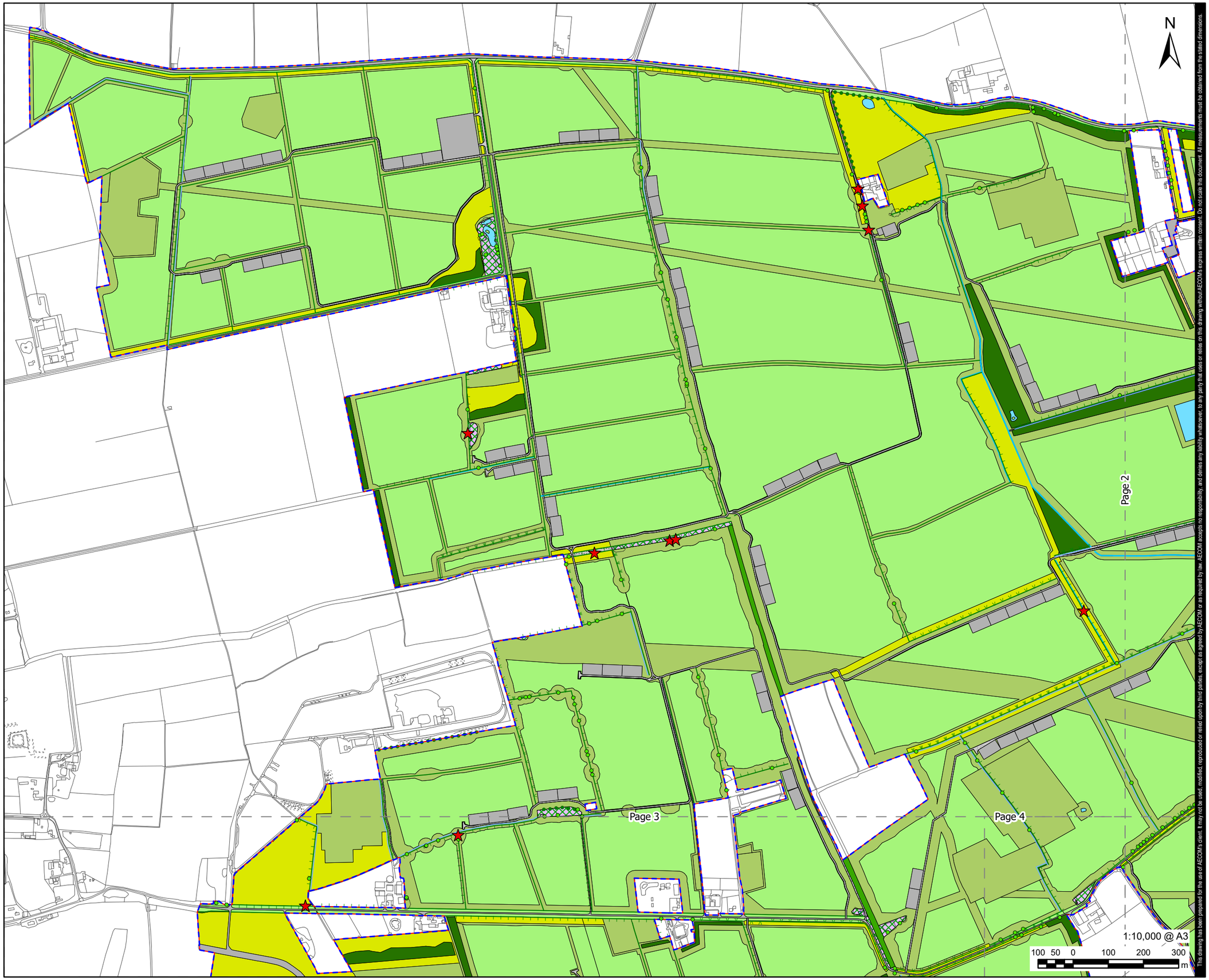

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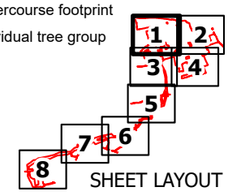
LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
- Species-rich native hedgerow
- Species-rich native hedgerow - associated with bank or ditch
- Species-rich native hedgerow with trees
- Species-rich native hedgerow with trees - associated with bank or ditch
- Culvert
- Ditch
- Biodiversity Zone
- Cropland - Cereal crops
- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
- Urban - Artificial unvegetated, unsealed surface
- Urban - Bare ground
- Urban - Developed land; sealed surface
- Woodland and forest - Lowland mixed deciduous woodland
- Woodland and forest - Other woodland; broadleaved
- Watercourse footprint
- Individual tree group



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PROJECT NUMBER

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FIGURE TITLE

Biodiversity Net Gain
Post Development Habitat
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Figure 2

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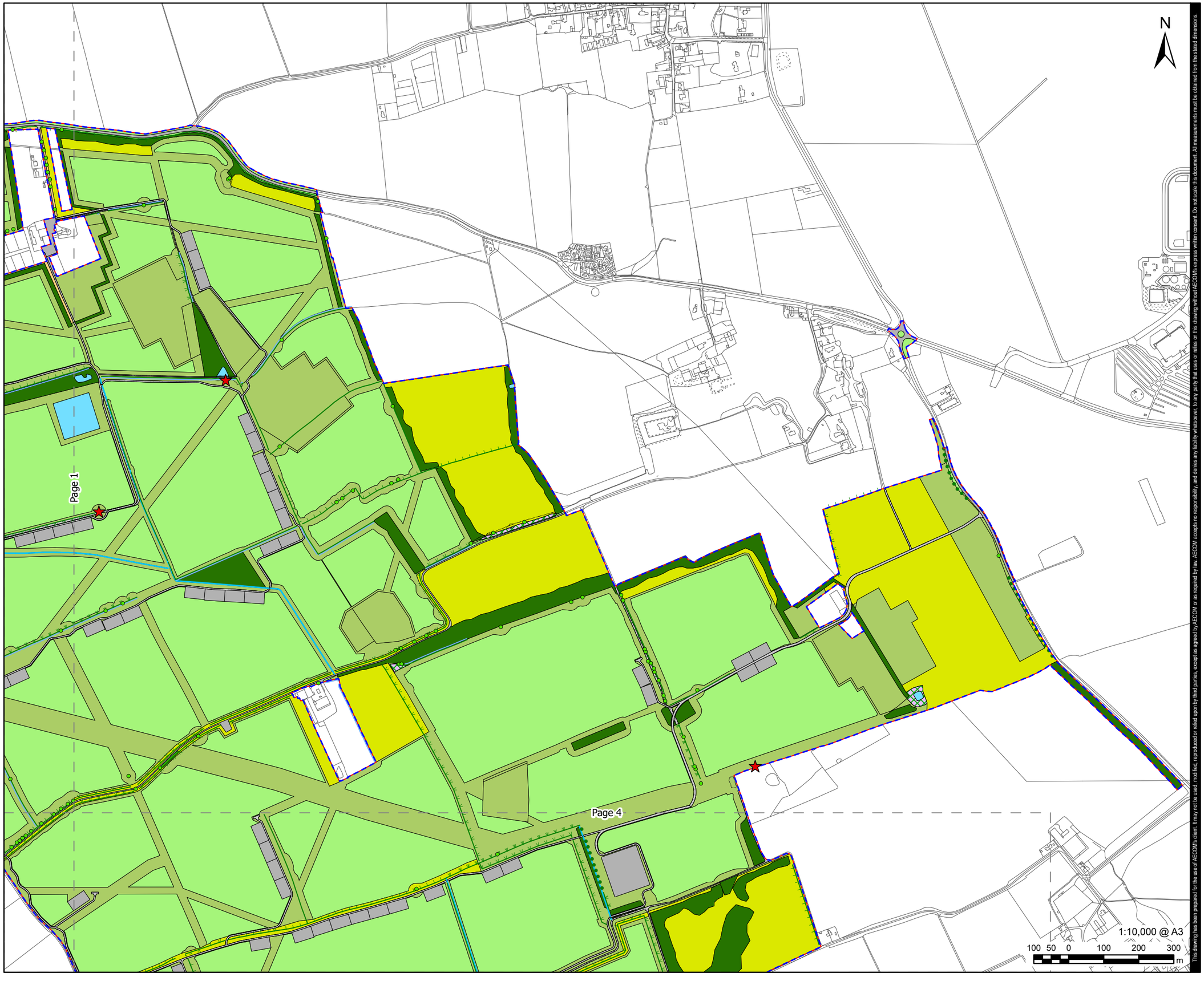

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CONSULTANT

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LEGEND

- Order limits
- BNG parameters plan
- Veteran tree

UK Habitat Type

- Rural tree
- Line of trees
- Native hedgerow
- Native hedgerow - associated with bank or ditch
- Native hedgerow with trees
- Native hedgerow with trees - associated with bank or ditch
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- Ditch
- Biodiversity Zone
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- Grassland - Modified grassland
- Grassland - Other neutral grassland
- Heathland and shrub - Mixed scrub
- Lakes - Ponds (non-priority habitat)
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- Urban - Bare ground
- Urban - Developed land; sealed surface
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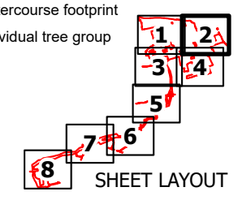
- Watercourse footprint
- Individual tree group



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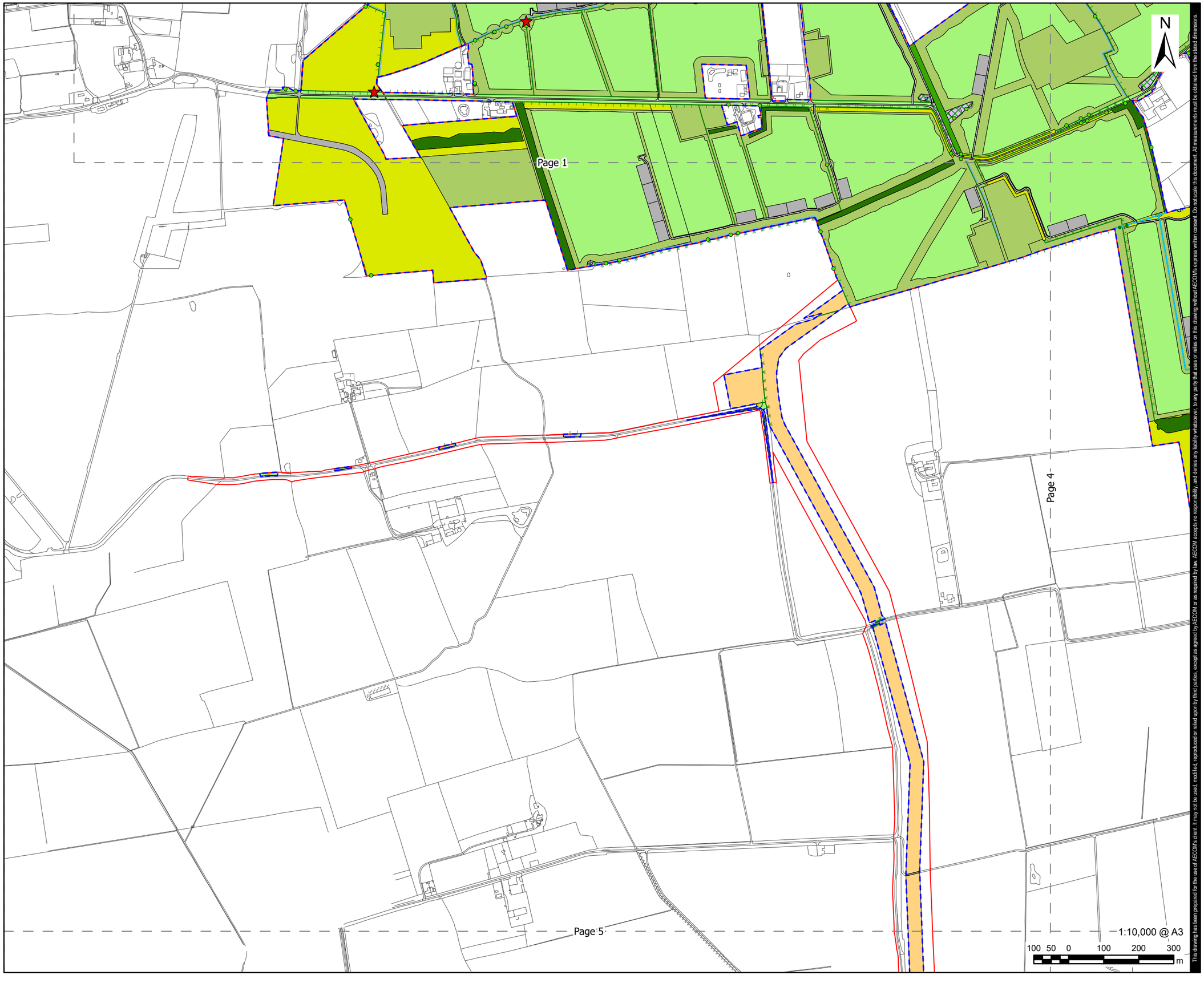

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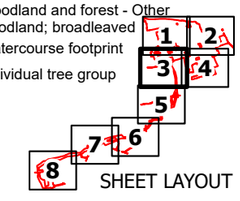

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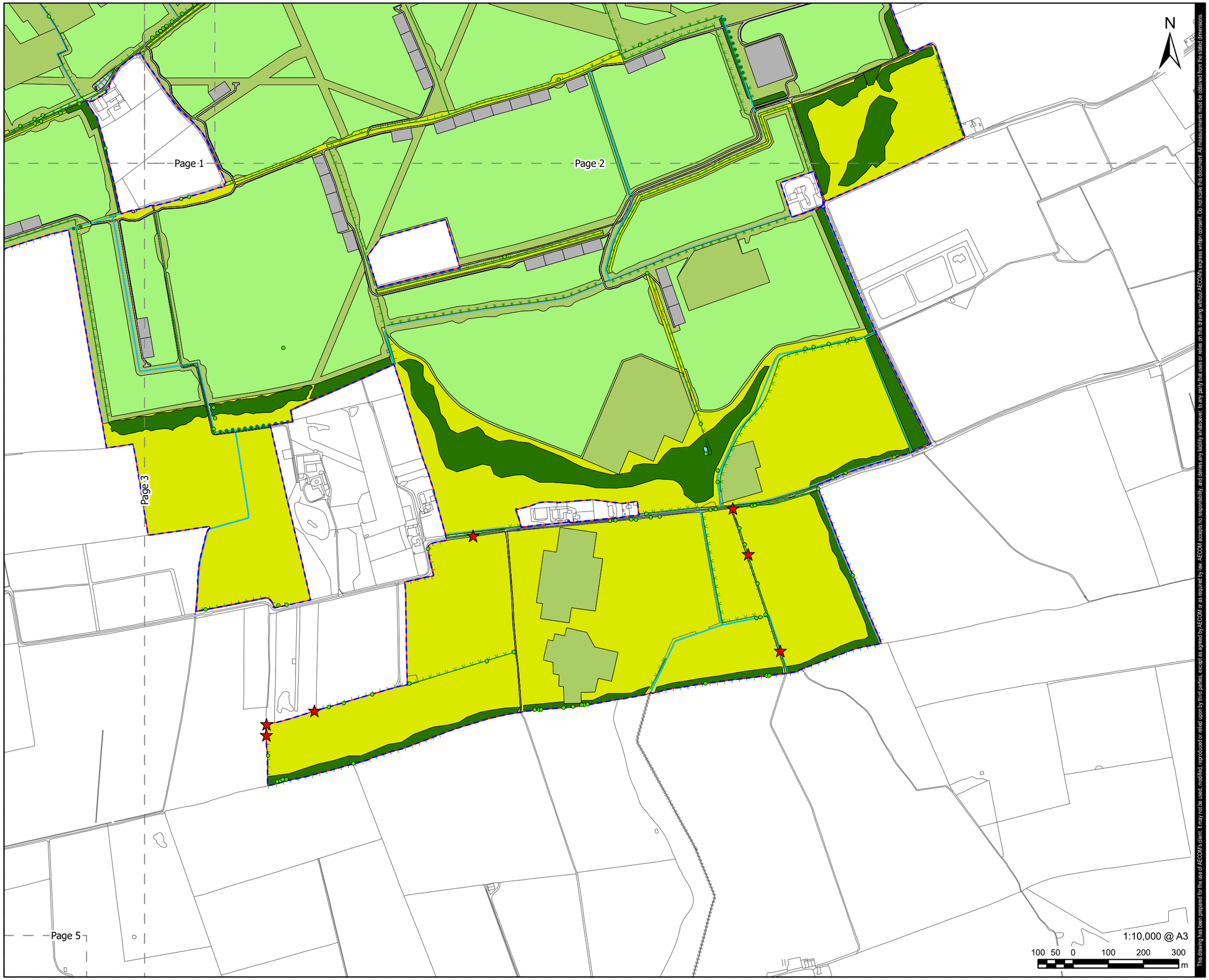

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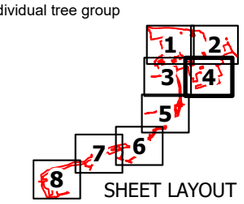

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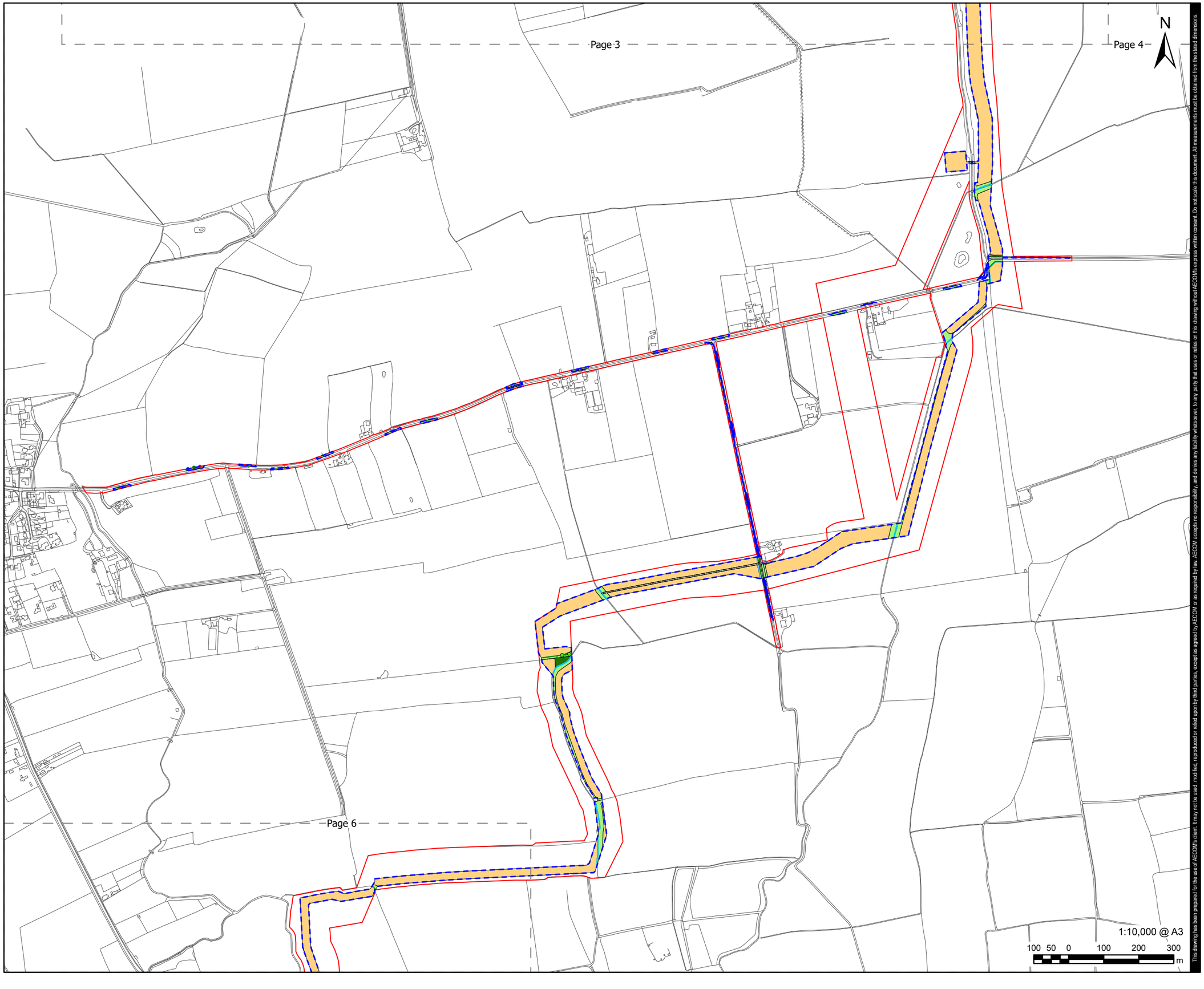

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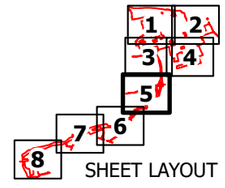

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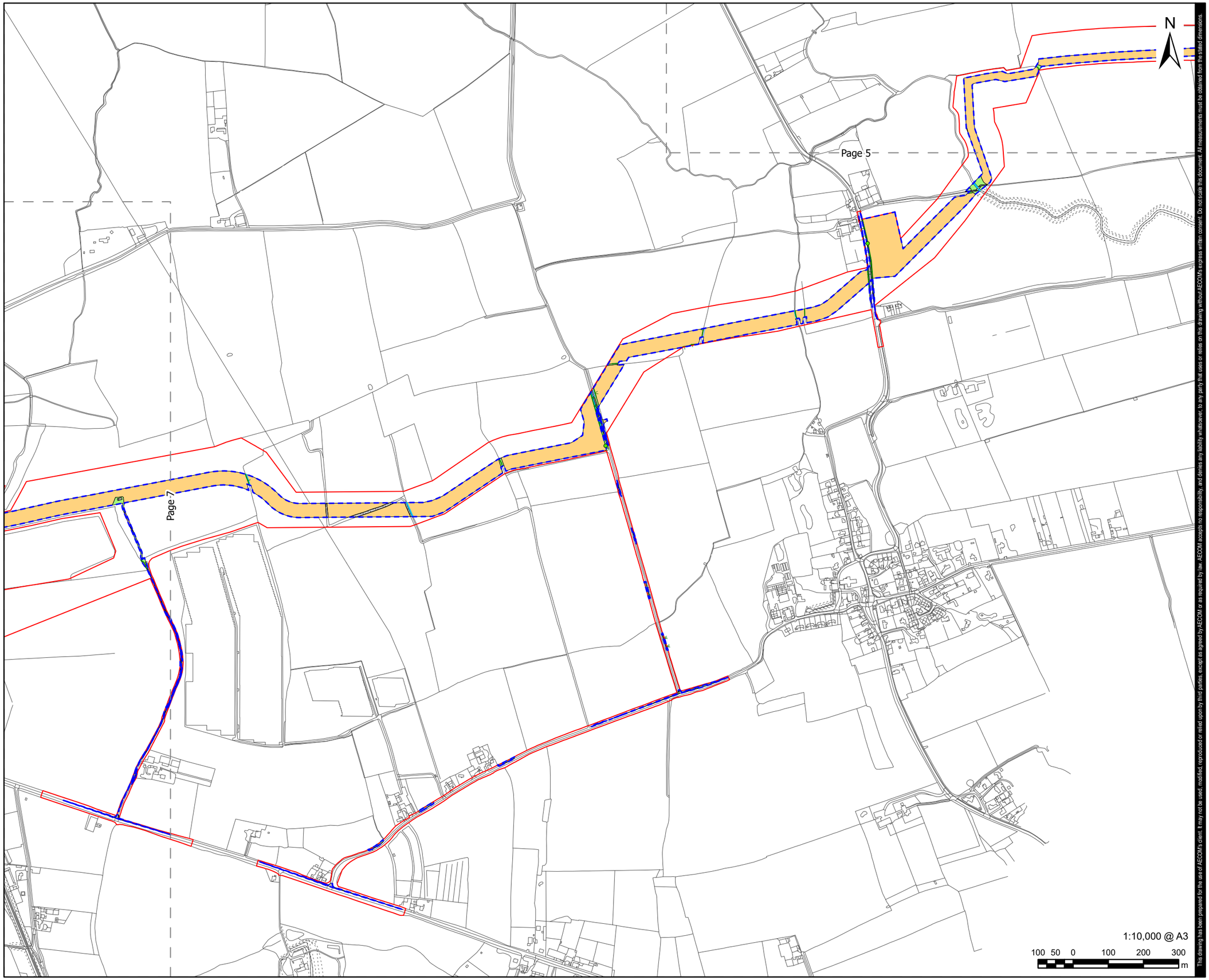

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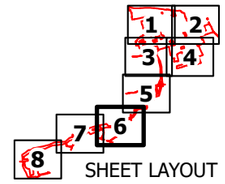

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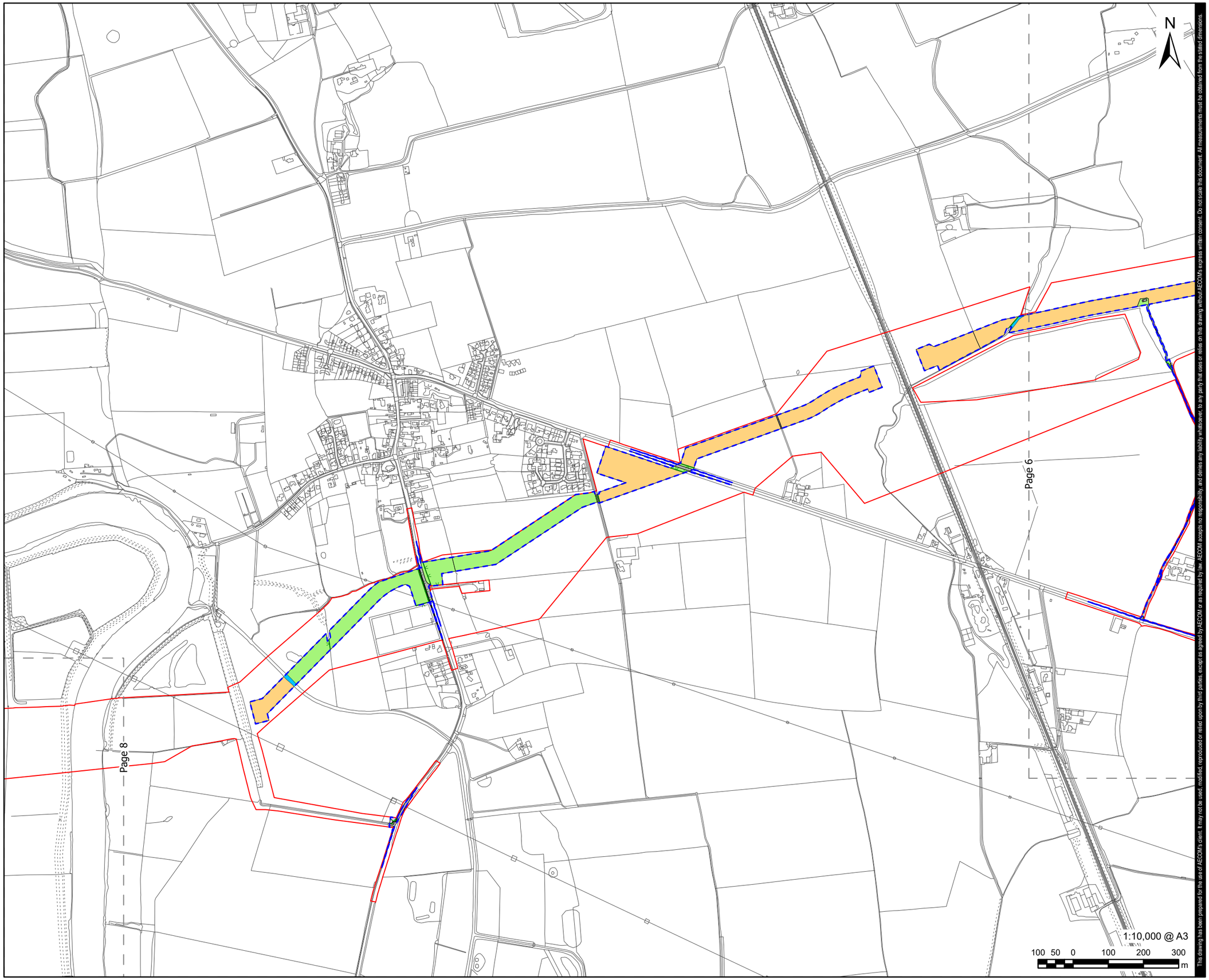

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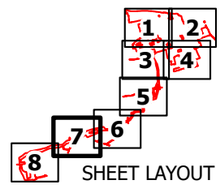

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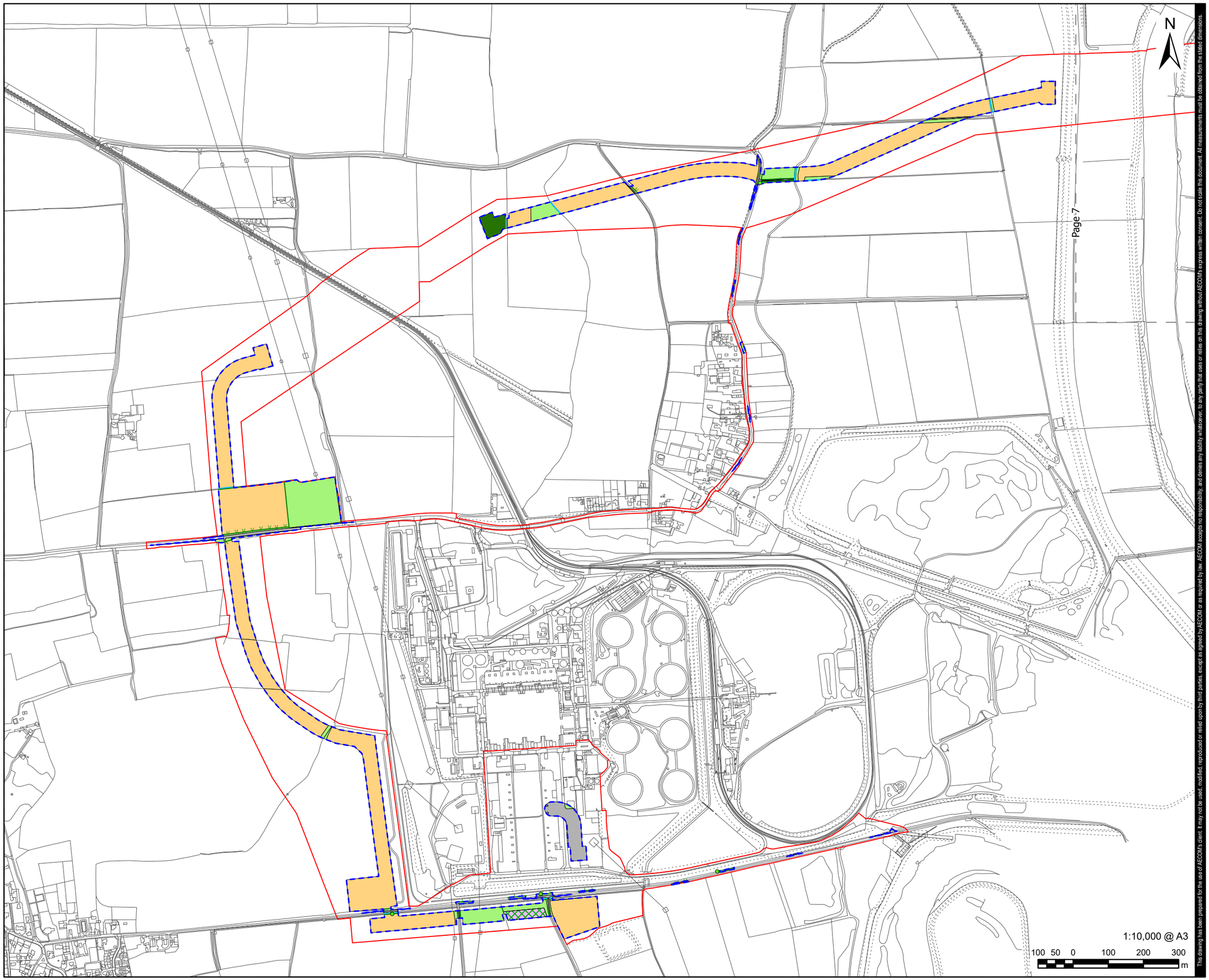

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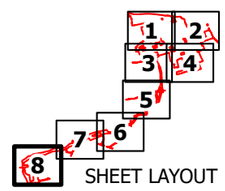

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Appendix C Habitat Classification Conversions

C.1 Phase 1 Habitat to UKHab Conversion

Phase 1 Habitat Classification	UKHab Classification
J5 – Other habitat	Cropland – Arable field margins game bird mix
J1.1 – Cultivated/disturbed land – arable	Cropland – Cereal crops
B3.2 – Calcareous grassland – semi-improved	Grassland – Lowland calcareous grassland
B1.2 – Acid grassland – semi-improved	Grassland – Modified grassland
B4 – Improved grassland	Grassland – Modified grassland
B6 – Poor semi-improved grassland	Grassland – Modified grassland
J1.2 – Cultivated/disturbed land – amenity grassland	Grassland – Modified grassland
B2.2 – Neutral grassland – semi-improved	Grassland – Other neutral grassland
A2.1 – Scrub – dense/continuous	Heathland and shrub – Mixed scrub
A2.2 – Scrub – scattered	Heathland and shrub – Mixed scrub
G1 – Standing water	Lakes – Ponds (non-priority habitat)
C3.1 – Other tall herb and fern – ruderal	Sparsely vegetated land – Ruderal/ephemeral
J1.3 – Cultivated/disturbed land – ephemeral/short perennial	Sparsely vegetated land – Ruderal/ephemeral
I2.2 – Spoil	Urban – Bare ground
J4 – Bare ground	Urban – Bare ground
Hardstanding	Urban – Developed land; sealed surface
J3.6 – Buildings	Urban – Developed land; sealed surface

Watercourse	Watercourse footprint – Watercourse footprint
A1.1.1 – Broadleaved woodland – semi-natural	Woodland and forest – Lowland mixed deciduous woodland
A1.3.1 – Mixed woodland – semi-natural	Woodland and forest – Lowland mixed deciduous woodland
A1.1.2 – Broadleaved woodland – plantation	Woodland and forest – Other woodland; broadleaved
A1.3.2 – Mixed woodland – plantation	Woodland and forest – Other woodland; mixed

C.2 Framework Landscape Masterplan to UKHab Conversion

Tillbridge Masterplan Classification	**UKHab Classification**
Proposed areas of solar panels with sbz i-improved grassland beneath	95% - Grassland – Modified grassland 5% - Urban – Developed land; sealed surface
Proposed 'Solar Stations' And Battery Energy Storage Stations (Bess)	Urban – Developed land; sealed surface
Proposed Gravel Maintenance Access Tracks	Urban – Artificial unvegetated; unsealed surface
Proposed Infrastructure: Substations, Office, Storage	Urban – Developed land; sealed surface
Proposed Timber/Wire Mesh Deer Fence With Cctv Cameras On Poles	Fences not included in the assessment
Proposed New Native Woodland Planting	Woodland and forest – Other woodland; broadleaved
Proposed Biodiv (E.G. Hedgerows, Grassland For Ground Nesting Birds, Wood Pasture, Wetlands, Species-Rich Meadows)	70.00% - Grassland – Other neutral grassland 12.50% - Woodland and forest – Other woodland; broadleaved 12.50% - Heathland and shrub – Mixed scrub 4.00% - Grassland – Lowland calcareous grassland 1.00% - Lakes – Ponds (non-priority habitat)

Other Proposed Areas Of Grassland (Including Species-Rich) Outside Of Panel And Access Track Areas	Grassland – Other neutral grassland
Special Archaeological Areas	Grassland – Other neutral grassland

Appendix D Strategic Significance Rationale

Source	Strategic Significance Information
Central Lincolnshire Local Plan (Ref. 7)	Policy S60: Protecting Biodiversity and Geodiversity *"All development should:* • *protect, manage, enhance and extend the ecological network of habitats, species and sites of international, national and local importance (statutory and non-statutory), including sites that meet the criteria for selection as a Local Site"* • *Irreplaceable Habitats Planning permission will be refused for development resulting in the loss, deterioration or fragmentation of irreplaceable habitats, including ancient woodland and aged or veteran trees, unless there are wholly exceptional reasons and a suitable compensation strategy will be delivered.* • *Local Sites (LNR, LWS and LGS) Development likely to have an adverse effect on locally designated sites, their features or their function as part of the ecological network, will only be supported where the benefits of the development clearly outweigh the loss, and the coherence of the local ecological network is maintained. Where significant harm cannot be avoided, the mitigation hierarchy should be followed* Policy S61: Biodiversity Opportunity and Delivering Measurable Net Gains *"Development proposals should create new habitats, and links between habitats, in line with Central Lincolnshire Biodiversity Opportunity and Green Infrastructure Mapping evidence."* **Application to assessment** • All habitats located within LWS's assigned 'High' SS. • All habitats considered irreplaceable assigned 'High' SS.

Central Lincolnshire Council – StatMap Aurora Online Mapping (Ref 14).	An area running north to south through the site has been considered strategically significant because it falls within the boundary for the 'Area of Great Landscape Value' (Policy LP17). These areas are of significance because *"the wider Central Lincolnshire landscape is a green, species rich area".* This policy is in place *"to ensure that development will not have an adverse impact upon the rural character of the landscape, biodiversity and upon heritage assets".* **Application to assessment** 'High' SS assigned to all habitats present within the 'Area of Great Landscape Value'
Chapter 9: Ecology and Nature Conservation of the ES **[EN010142/APP/6.1]**	The following habitats have been considered to be of value to the following protected species. **Ground-nesting birds:** • Cropland – Arable field margin cultivated annually. • Cropland – Cereal crops. **Great Crested Newts:** • Lakes – Ponds (non-priority habitat) – one pond confirmed as having GCN presence. **Bats:** • Woodland and forest – Lowland mixed deciduous woodland. • Woodland and forest – Other woodland; broadleaved. • Individual trees – Rural tree All hedgerow habitat types present on-site have been identified as providing important habitat connectivity throughout the Site. **Application to assessment** 'Medium' SS at least assigned to all of the above habitats (in the case of 'Lakes – Ponds (non-priority habitat) this only applies to the pond which had confirmed GCN presence), with 'High' SS assigned if present within a strategically significant area.
MAGIC (Ref 15)	Priority habitats including Deciduous Woodland, Good quality semi-improved grassland, Coastal and Floodplain Grazing Marsh may fall within the Site. **Application to assessment** No direct impact on SS.

Appendix E BNG Good Practice Principles for Development

Principle	How has this been applied in the assessment
Principle 1: Apply the Mitigation Hierarchy	As much habitat is proposed to be retained as possible within the remits of the assumptions made. Where possible, hedgerow habitats were enhanced, and habitats have been proposed to be created on-site.
Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere	There is no loss of irreplaceable biodiversity due to take place on-site. All veteran trees present are to be retained.
Principle 3: Be inclusive and equitable	No Stakeholder engagement was required for this BNG assessment.
Principle 4: Address risks	All risks regarding difficulties achieving net gains for the project have been mitigated appropriately by means of sufficient provision of compensatory habitats, which has enabled the project to achieve net gains. There was a particular focus on limiting impacts to 'High' distinctiveness habitat, and thus all 'Woodland and forest – Lowland mixed deciduous woodland' is proposed to be retained. Though 'Grassland – Lowland calcareous grassland' is proposed to be impacted, it is proposed that the biodiversity enhancement area will incorporate creation of this habitat, and thus, the risks have been mitigated.
Principle 5: Make a measurable Net Gain contribution	The Scheme will surpass the +0% BNG target for each of the area-based, hedgerow, and watercourse habitats while increasing the variety of habitats present within the Site.
Principle 6: Achieve the best outcomes for biodiversity	Net gains are achieved for each habitat type, whilst also meeting the trading rules for the majority of habitats. In cases where the trading rules have not been met, these losses of habitats are qualitatively mitigated for by the proposed creation of similar habitats (individual trees replaced by proposed woodland, and arable field margins replaced by proposed interconnected grasslands).

	The Site is proposed to transform from a relatively sparse arable landscape to a diverse range of interconnected grasslands. Focused areas for biodiversity enhancement have been allocated.
Principle 7: Be additional	The area habitat BNG exceeds the minimum BNG commitment of 10% committed to by the Applicant.
Principle 8: Create a net gain legacy	A net gain legacy is to be achieved on this Site by achieving net gains in all habitat types.
Principle 9: Optimise sustainability	This project will create a Solar Farm that will provide communities with renewable energy which will reduce the reliance on fossil fuels.
Principle 10: Be transparent	All BNG activities have been communicated transparently in this BNG report and associated Metric (Ref. 1).

Appendix F Data Tables

Baseline Data

Baseline Area-Based Habitats

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Cropland	Arable field margins cultivated annually	9.617	Medium	Condition Assessment N/A	Medium	42.31
Cropland	Cereal crops	130.012	Low	Condition Assessment N/A	High	299.03
Cropland	Cereal crops	18.038	Low	Condition Assessment N/A	Medium	39.68
Cropland	Cereal crops	1122.747	Low	Condition Assessment N/A	Medium	2470.04
Grassland	Lowland calcareous grassland	0.07	High	Good	Low	1.26
Grassland	Lowland calcareous grassland	0.035	High	Good	High	0.72
Grassland	Lowland calcareous grassland	0.083	High	Good	High	1.72
Grassland	Modified grassland	4.068	Low	Poor	Low	8.14
Grassland	Modified grassland	2.51	Low	Poor	Low	5.02
Grassland	Modified grassland	0.029	Low	Poor	Low	0.06
Grassland	Modified grassland	85.904	Low	Poor	Low	171.81
Grassland	Modified grassland	0.028	Low	Poor	High	0.06
Grassland	Modified grassland	2.116	Low	Poor	High	4.87

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Grassland	Modified grassland	0.042	Low	Poor	High	0.10
Grassland	Modified grassland	5.001	Low	Poor	High	11.50
Grassland	Modified grassland	0.038	Low	Poor	High	0.09
Grassland	Modified grassland	0.04	Low	Poor	High	0.09
Grassland	Other neutral grassland	0.79	Medium	Moderate	Low	6.32
Heathland and shrub	Mixed scrub	2.076	Medium	Moderate	Low	16.61
Heathland and shrub	Mixed scrub	0.289	Medium	Moderate	Low	2.31
Heathland and shrub	Mixed scrub	0.208	Medium	Moderate	Low	1.66
Heathland and shrub	Mixed scrub	0.188	Medium	Poor	Low	0.75
Heathland and shrub	Mixed scrub	0.215	Medium	Poor	High	0.99
Lakes	Ponds (non-priority habitat)	1.505	Medium	Moderate	Low	12.04
Lakes	Ponds (non-priority habitat)	0.138	Medium	Moderate	Medium	1.21
Sparsely vegetated land	Ruderal/ephemeral	3.152	Low	Poor	Low	6.30
Urban	Bare ground	0.061	Low	Poor	Low	0.12
Urban	Bare ground	3.862	Low	Poor	Low	7.72
Urban	Bare ground	0.587	Low	Poor	High	1.35
Urban	Bare ground	0	Low	Poor	High	0.00
Urban	Developed land; sealed surface	9.754	V.Low	N/A – Other	Low	0.00
Watercourse footprint	Watercourse footprint	2.357	V.low	N/A – Other	Low	0.00

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Woodland and forest	Lowland mixed deciduous woodland	0.028	High	Good	High	0.58
Woodland and forest	Lowland mixed deciduous woodland	0.688	High	Good	Medium	13.62
Woodland and forest	Lowland mixed deciduous woodland	0.519	High	Moderate	Medium	6.85
Woodland and forest	Other woodland; broadleaved	0.08	Medium	Moderate	High	0.74
Woodland and forest	Other woodland; broadleaved	5.259	Medium	Moderate	Medium	46.28
Woodland and forest	Other woodland; broadleaved	2.273	Medium	Moderate	Medium	20.00
Woodland and forest	Other woodland; broadleaved	0.383	Medium	Poor	Medium	1.69
Woodland and forest	Other woodland; broadleaved	4.393	Medium	Poor	Medium	19.33
Individual trees	Rural tree	0.22	Medium	Moderate	High	2.02
Individual trees	Rural tree	0.183	Medium	Moderate	High	0.00
Individual trees	Rural tree	1.539	Medium	Moderate	Medium	13.54
Individual trees	Rural tree	0.147	Medium	Moderate	Medium	0.00
Individual trees	Rural tree	0.522	Medium	Moderate	High	4.80
Individual trees	Rural tree	0.179	Medium	Moderate	Medium	1.58
Individual trees	Rural tree	2.313	Medium	Moderate	Medium	20.35
Individual trees	Rural tree	0.016	Medium	Moderate	Medium	0.00
Individual trees	Rural tree	0.053	Medium	Moderate	High	0.49
Individual trees	Rural tree	0.143	Medium	Moderate	Medium	1.26
Individual trees	Rural tree	0.229	Medium	Moderate	High	2.11

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Individual trees	Rural tree	0.153	Medium	Moderate	High	0.00
Individual trees	Rural tree	0.306	Medium	Moderate	Medium	2.69
Individual trees	Rural tree	0.612	Medium	Moderate	Medium	0.00
Individual trees	Rural tree	0.07	Medium	Moderate	High	0.64
Individual trees	Rural tree	0.318	Medium	Moderate	High	2.93
Individual trees	Rural tree	1.107	Medium	Moderate	Medium	9.74
Individual trees	Rural tree	1.776	Medium	Moderate	Medium	15.63
Individual trees	Rural tree	0.045	Medium	Moderate	Medium	0.40
Total	**-**	**1419.18***	**-**	**-**	**-**	**3301.17**

*'Individual trees – Rural tree' areas are excluded from the total area to prevent double counting of the area; however, the unit contributions are included within the habitat unit total. Data in red represent veteran trees, which are considered irreplaceable habitats.

Baseline Hedgerow Habitats

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Line of trees	1.443	Low	Moderate	Medium	6.35
Line of trees	0.055	Low	Poor	High	0.13
Line of trees	0.279	Low	Poor	Medium	0.61
Line of trees – associated with bank or ditch	1.133	Low	Poor	Medium	2.49
Native hedgerow	0.516	Low	Good	High	3.56

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Native hedgerow	10.609	Low	Good	Medium	70.02
Native hedgerow	0.066	Low	Moderate	High	0.30
Native hedgerow	13.048	Low	Moderate	Medium	57.41
Native hedgerow	0.546	Low	Poor	High	1.26
Native hedgerow	2.243	Low	Poor	Medium	4.93
Native hedgerow – associated with bank or ditch	2.065	Medium	Good	Medium	27.26
Native hedgerow – associated with bank or ditch	1.724	Medium	Moderate	Medium	15.17
Native hedgerow with trees	2.328	Medium	Good	High	32.13
Native hedgerow with trees	4.647	Medium	Good	Medium	61.34
Native hedgerow with trees	1.430	Medium	Moderate	High	13.16
Native hedgerow with trees	11.175	Medium	Moderate	Medium	98.34
Native hedgerow with trees	0.018	Medium	Poor	High	0.08
Native hedgerow with trees	1.096	Medium	Poor	Medium	4.82
Native hedgerow with trees – associated with bank or ditch	0.473	High	Good	High	9.79
Native hedgerow with trees – associated with bank or ditch	1.312	High	Good	Medium	25.98
Native hedgerow with trees – associated with bank or ditch	0.025	High	Moderate	High	0.35
Native hedgerow with trees – associated with bank or ditch	1.120	High	Moderate	Medium	14.78
Native hedgerow with trees – associated with bank or ditch	0.758	High	Poor	Medium	5.00
Species-rich native hedgerow	0.475	Medium	Good	Medium	6.27

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Species-rich native hedgerow	0.278	Medium	Moderate	High	2.56
Species-rich native hedgerow	1.356	Medium	Moderate	Medium	11.93
Species-rich native hedgerow – associated with bank or ditch	0.027	High	Good	High	0.56
Species-rich native hedgerow – associated with bank or ditch	0.235	High	Good	Medium	4.65
Species-rich native hedgerow – associated with bank or ditch	0.320	High	Moderate	Medium	4.22
Species-rich native hedgerow with trees	0.051	High	Good	High	1.06
Species-rich native hedgerow with trees	1.567	High	Good	Medium	31.03
Species-rich native hedgerow with trees	0.250	High	Moderate	High	3.45
Species-rich native hedgerow with trees	0.650	High	Moderate	Medium	8.58
Species-rich native hedgerow with trees	0.468	High	Poor	Medium	3.09
Species-rich native hedgerow with trees – associated with bank or ditch	0.441	V.High	Good	Medium	11.64
Species-rich native hedgerow with trees – associated with bank or ditch	1.200	V.High	Moderate	Medium	21.12
Species-rich native hedgerow with trees – associated with bank or ditch	0.279	V.High	Poor	High	2.57
Species-rich native hedgerow with trees – associated with bank or ditch	0.358	V.High	Poor	Medium	3.15
Total	**66.06**	**-**	**-**	**-**	**571.14**

Baseline Watercourse Habitats

Habitat type	Watercourse Name	Length (km)	Distinctiveness	Condition	SS	Watercourse Units
Ditches	NS13	0.326	Medium	Moderate	Low	1.96
Ditches	NS15	0.175	Medium	Moderate	Low	1.22
Ditches	WC13	0.033	Medium	Poor	Low	0.10
Ditches	WC20 and WC21	0.244	Medium	Poor	Low	0.85
Ditches	WC31	0.239	Medium	Poor	Low	0.83
Ditches	NS11	0.764	Medium	Moderate	Low	4.58
Ditches	WC15	0.069	Medium	Poor	Low	0.21
Ditches	WC38	0.389	Medium	Moderate	Low	2.33
Ditches	NS3	1.455	Medium	Moderate	Low	8.73
Ditches	WC30	0.247	Medium	Moderate	Low	1.72
Ditches	NS12	0.351	Medium	Moderate	Low	2.11
Ditches	NS14	0.433	Medium	Moderate	Low	3.01
Ditches	NS6	0.488	Medium	Moderate	Low	2.93
Ditches	WC14	0.044	Medium	Poor	Low	0.13
Ditches	NS10	0.368	Medium	Moderate	Low	2.36
Ditches	WC32 and WC33	0.281	Medium	Poor	Low	0.84
Ditches	WC25	0.09	Medium	Poor	Low	0.27
Ditches	WC30	0.563	Medium	Moderate	Low	3.38

Habitat type	Watercourse Name	Length (km)	Distinctiveness	Condition	SS	Watercourse Units
Ditches	NS7	0.159	Medium	Moderate	Low	1.17
Ditches	WC27	0.029	Medium	Poor	Low	0.09
Ditches	WC37	0.340	Medium	Moderate	Low	2.04
Ditches	WC36	0.915	Medium	Moderate	Low	5.49
Ditches	WC31	0.389	Medium	Poor	Low	1.17
Ditches	WC29	0.155	Medium	Poor	Low	0.47
Ditches	NS4	0.562	Medium	Moderate	Low	3.37
Ditches	NS5	0.306	Medium	Moderate	Low	1.84
Ditches	NS8	0.104	Medium	Moderate	Low	0.83
Ditches	NS33	0.285	Medium	Moderate	Low	1.92
Ditches	NS9	0.520	Medium	Moderate	Low	3.12
Total	**-**	**10.32**	**-**	**-**	**-**	**59.05**

Post-Development Data

Retained Habitats

Retained Area-Based Habitats

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Cropland	Cereal crops	0.327	Low	Condition Assessment N/A	Medium	0.72
Grassland	Modified grassland	9.744	Low	Poor	Low	19.49
Grassland	Modified grassland	0.351	Low	Poor	High	0.81
Heathland and shrub	Mixed scrub	2.074	Medium	Moderate	Low	16.59
Heathland and shrub	Mixed scrub	0.208	Medium	Moderate	Low	1.66
Heathland and shrub	Mixed scrub	0.192	Medium	Poor	High	0.88
Lakes	Ponds (non-priority habitat)	1.408	Medium	Moderate	Low	11.26
Lakes	Ponds (non-priority habitat)	0.138	Medium	Moderate	Medium	1.21
Urban	Bare ground	2.986	Low	Poor	Low	5.97
Urban	Bare ground	0.378	Low	Poor	High	0.87
Urban	Developed land; sealed surface	8.003	V.Low	N/A – Other	Low	0.00
Watercourse footprint	Watercourse footprint	2.349	V.Low	N/A – Other	Low	0.00
Woodland and forest	Lowland mixed deciduous woodland	0.028	High	Good	High	0.58

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Woodland and forest	Lowland mixed deciduous woodland	0.688	High	Good	Medium	13.62
Woodland and forest	Lowland mixed deciduous woodland	0.519	High	Moderate	Medium	6.85
Woodland and forest	Other woodland; broadleaved	5.186	Medium	Moderate	Medium	45.64
Woodland and forest	Other woodland; broadleaved	4.180	Medium	Poor	Medium	18.39
Individual trees	Rural tree	0.220	Medium	Moderate	High	2.02
Individual trees	Rural tree	0.183	Medium	Moderate	High	0.00
Individual trees	Rural tree	1.466	Medium	Moderate	Medium	12.90
Individual trees	Rural tree	0.147	Medium	Moderate	Medium	0.00
Individual trees	Rural tree	0.424	Medium	Moderate	High	3.90
Individual trees	Rural tree	0.066	Medium	Moderate	Medium	0.58
Individual trees	Rural tree	2.198	Medium	Moderate	Medium	19.34
Individual trees	Rural tree	0.016	Medium	Moderate	Medium	0.00
Individual trees	Rural tree	0.053	Medium	Moderate	High	0.49
Individual trees	Rural tree	0.143	Medium	Moderate	Medium	1.296
Individual trees	Rural tree	0.229	Medium	Moderate	High	2.11
Individual trees	Rural tree	0.153	Medium	Moderate	High	0.00
Individual trees	Rural tree	0.306	Medium	Moderate	Medium	2.69
Individual trees	Rural tree	0.612	Medium	Moderate	Medium	0.00

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Condition	SS	Habitat Units
Individual trees	Rural tree	0.07	Medium	Moderate	High	0.64
Individual trees	Rural tree	0.318	Medium	Moderate	High	2.93
Individual trees	Rural tree	1.105	Medium	Moderate	Medium	9.72
Individual trees	Rural tree	1.773	Medium	Moderate	Medium	15.60
Individual trees	Rural tree	0.045	Medium	Moderate	Medium	0.40
Total	**-**	**48.29***	**-**	**-**	**-**	**219.14**

*'Individual trees – Rural tree' areas are excluded from the total area to prevent double counting of the area; however, the unit contributions are included within the habitat unit total. Data in red represent veteran trees, which are considered irreplaceable.

Retained Hedgerow Habitats

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Line of trees	0.813	Low	Moderate	Medium	3.58
Line of trees	0.028	Low	Poor	Medium	0.06
Native hedgerow	0.416	Low	Good	High	2.87
Native hedgerow	10.096	Low	Good	Medium	66.63
Native hedgerow	0.001	Low	Moderate	High	0.00
Native hedgerow	8.192	Low	Moderate	Medium	36.04
Native hedgerow	0.461	Low	Poor	High	1.06
Native hedgerow	2.108	Low	Poor	Medium	4.64

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Native hedgerow – associated with bank or ditch	2.059	Medium	Good	Medium	27.18
Native hedgerow – associated with bank or ditch	1.523	Medium	Moderate	Medium	13.40
Native hedgerow with trees	2.038	Medium	Good	High	28.12
Native hedgerow with trees	4.340	Medium	Good	Medium	57.29
Native hedgerow with trees	0.772	Medium	Moderate	High	7.10
Native hedgerow with trees	8.084	Medium	Moderate	Medium	71.14
Native hedgerow with trees	0.292	Medium	Poor	Medium	1.28
Native hedgerow with trees – associated with bank or ditch	0.473	High	Good	High	9.79
Native hedgerow with trees – associated with bank or ditch	1.276	High	Good	Medium	25.26
Native hedgerow with trees – associated with bank or ditch	0.884	High	Moderate	Medium	11.67
Native hedgerow with trees – associated with bank or ditch	0.718	High	Poor	Medium	4.74
Species-rich native hedgerow	0.456	Medium	Good	Medium	6.02
Species-rich native hedgerow	0.078	Medium	Moderate	High	0.72
Species-rich native hedgerow	0.639	Medium	Moderate	Medium	5.62
Species-rich native hedgerow – associated with bank or ditch	0.234	High	Good	Medium	4.63
Species-rich native hedgerow – associated with bank or ditch	0.293	High	Moderate	Medium	3.87
Species-rich native hedgerow with trees	1.307	High	Good	Medium	25.88
Species-rich native hedgerow with trees	0.599	High	Moderate	Medium	7.91
Species-rich native hedgerow with trees	0.340	High	Poor	Medium	2.24

Habitat type	Length (km)	Distinctiveness	Condition	SS	Hedgerow Units
Species-rich native hedgerow with trees – associated with bank or ditch	0.434	V.High	Good	Medium	11.46
Species-rich native hedgerow with trees – associated with bank or ditch	0.535	V.High	Moderate	Medium	9.42
Species-rich native hedgerow with trees – associated with bank or ditch	0.279	V.High	Poor	High	2.57
Species-rich native hedgerow with trees – associated with bank or ditch	0.358	V.High	Poor	Medium	3.15
Total	**50.13**	**-**	**-**	**-**	**455.35**

Retained Watercourse Habitats

Habitat type	Watercourse Name	Length (km)	Distinctiveness	Condition	SS	Watercourse Units
Ditches	NS15	0.175	Medium	Moderate	Low	1.22
Ditches	WC13	0.030	Medium	Poor	Low	0.09
Ditches	WC20 and WC21	0.241	Medium	Poor	Low	0.84
Ditches	WC31	0.236	Medium	Poor	Low	0.82
Ditches	WC15	0.066	Medium	Poor	Low	0.20
Ditches	WC30	0.247	Medium	Moderate	Low	1.72
Ditches	WC14	0.041	Medium	Poor	Low	0.12
Ditches	WC25	0.087	Medium	Poor	Low	0.26

Habitat type	Watercourse Name	Length (km)	Distinctiveness	Condition	SS	Watercourse Units
Ditches	NS7	0.159	Medium	Moderate	Low	1.17
Ditches	WC27	0.026	Medium	Poor	Low	0.08
Ditches	WC29	0.146	Medium	Poor	Low	0.44
Ditches	NS8	0.104	Medium	Moderate	Low	0.83
Total	**-**	**1.55**	**-**	**-**	**-**	**7.78**

Enhanced Habitats

Enhanced Area-Based Habitats

Broad Habitat	Habitat type	Distinctiveness change	Condition Change	SS	Time to target condition (yrs)	Area (ha)	Enhanced Units	Enhancement Uplift
Heathland and shrub	Mixed scrub	No change	Poor → Good	Low	10	0.188	0.75 → 1.38	+1.06
Woodland and forest	Other woodland; broadleaved	No change	Poor → Moderate	Medium	10	0.144	0.63 → 1.08	+0.45
Total	**-**	**-**	**-**	**-**	**-**	**0.33**	**1.39 → 2.46**	**+1.51***

*Despite 2.88 – 1.39 = 1.49, rounding in the Metric results in this enhancement totalling up to 1.51.

Enhanced Hedgerow Habitats

Habitat Type	Distinctiveness change	Condition Change	SS	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
Line of trees	Low – Low	Moderate – Good	Medium	10	0.539	2.37 →3.20	+0.83
Line of trees	Low – Low	Poor – Moderate	Medium	20	0.251	0.55 → 0.82	+0.27
Line of trees – associated with bank or ditch	Low – V.High	Lower Distinctiveness Habitat – Moderate	Medium	12	1.123	2.47 → 13.75	+11.28
Native hedgerow	Low – Low	Moderate – Good	Medium	2	3.683	16.21 → 23.75	+7.54
Native hedgerow with trees	Medium – Medium	Moderate – Good	Medium	4	0.478	4.40 → 6.30	+1.90
Native hedgerow with trees	Medium – Medium	Moderate – Good	Medium	4	2.288	20.13 → 28.86	+8.73
Native hedgerow with trees	Medium – Medium	Poor – Moderate	Medium	6	0.632	2.78 → 5.03	+2.25
Native hedgerow with trees – associated with bank or ditch	High – High	Moderate – Good	Medium	4	0.236	3.12 → 4.47	+1.35

Habitat Type	Distinctiveness change	Condition Change	SS	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
Native hedgerow with trees – associated with bank or ditch	High – High	Poor – Moderate	Medium	6	0.019	0.13 → 0.23	+0.10
Species-rich native hedgerow	Medium – Medium	Moderate – Good	Medium	2	0.279	2.46 → 3.60	+1.14
Species-rich native hedgerow with trees	High – High	Poor – Moderate	Medium	6	0.034	0.22 → 0.41	+0.19
Species-rich native hedgerow with trees – associated with bank or ditch	V.High - V.High	Moderate – Good	Medium	4	0.665	11.70 → 16.78	+5.08
Total	**-**	**-**	**-**	**-**	**10.23**	**66.54 → 107.49**	**+40.95**

Enhanced Watercourse Habitats

Habitat Type	Watercourse Name	Distinctiveness change	Condition Change	SS	Baseline Riparian Encroachment	Post-development Riparian Encroachment	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
Ditches	NS13	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.326	1.96 → 2.61	+0.65
Ditches	NS11	Medium – Medium	Moderate – Moderate	Low	Major/ Major	Major/No Encroachment	1	0.764	4.58 → 5.32	+0.74
Ditches	WC38	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.3855	2.31 → 3.08	+0.77
Ditches	NS3	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	1.451	8.71 → 11.61	+2.90
Ditches	NS12	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No	1	0.351	2.11 → 2.81	+0.70

Habitat Type	Watercourse Name	Distinctiveness change	Condition Change	SS	Baseline Riparian Encroachment	Post-development Riparian Encroachment	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
						Encroachment				
Ditches	NS14	Medium – Medium	Moderate – Moderate	Low	Major/ No Encroachment	No Encroachment/ No Encroachment	1	0.433	3.01 → 3.46	+0.45
Ditches	NS6	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.484	2.90 → 3.87	+0.97
Ditches	NS10	Medium – Medium	Moderate – Moderate	Low	Major/ Moderate	Moderate/ No Encroachment	1	0.368	2.36 → 2.71	+0.35
Ditches	WC32 and WC33	Medium – Medium	Poor – Poor	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.2685	0.81 → 1.07	+0.26
Ditches	WC30	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroach	1	0.5555	3.33 → 4.44	+1.11

Habitat Type	Watercourse Name	Distinctiveness change	Condition Change	SS	Baseline Riparian Encroachment	Post-development Riparian Encroachment	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
						ment/ No Encroachment				
Ditches	WC37	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.3365	2.02 → 2.69	+0.67
Ditches	WC36	Medium – Medium	Moderate – Moderate	Low	Major/ Major	Major/No Encroachment	1	0.8995	5.40 → 6.26	+0.86
Ditches	WC31	Medium – Medium	Poor – Poor	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.3755	1.13 → 1.50	+0.37
Ditches	NS4	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.562	3.37 → 4.50	+1.13

Habitat Type	Watercourse Name	Distinctiveness change	Condition Change	SS	Baseline Riparian Encroachment	Post-development Riparian Encroachment	Time to target condition (yrs)	Length (km)	Enhanced Units	Enhancement Uplift
Ditches	NS5	Medium – Medium	Moderate – Moderate	Low	Major/ Major	Minor/ No Encroachment	1	0.306	1.84 → 2.40	+0.56
Ditches	NS33	Medium – Medium	Moderate – Moderate	Low	Major/ Minor	No Encroachment/ No Encroachment	1	0.285	1.92 → 2.28	+0.36
Ditches	NS9	Medium – Medium	Moderate – Moderate	Low	Major/ Major	No Encroachment/ No Encroachment	1	0.52	3.12 → 4.16	+1.04
Total		**-**	**-**	**-**	**-**	**-**	**-**	**8.67**	**50.86 → 64.78**	**+13.89***

*Despite 64.78 – 50.86 = 13.92, rounding in the Metric results in this enhancement totalling up to 13.89.

Created Habitats

Created Area-Based Habitats

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Habitat Units
Grassland	Lowland calcareous grassland	0.070	High	Good	Low	20	0.20
Grassland	Lowland calcareous grassland	0.035	High	Good	High	20	0.12
Grassland	Lowland calcareous grassland	0.083	High	Good	High	20	0.28
Grassland	Modified grassland	727.291	Low	Poor	Low	1	1403.67
Grassland	Modified grassland	12.269	Low	Poor	High	1	27.23
Grassland	Other neutral grassland	0.157	Medium	Good	Low	10	1.32
Grassland	Other neutral grassland	180.604	Medium	Good	Low	10	1517.69
Grassland	Other neutral grassland	12.815	Medium	Good	High	10	123.84
Heathland and shrub	Mixed scrub	0.289	Medium	Moderate	Low	5	1.93
Urban	Artificial unvegetated, unsealed surface	12.150	V.Low	N/A - Other	Low	0	0.00
Urban	Artificial unvegetated, unsealed surface	0.131	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	24.045	V.Low	N/A - Other	Low	0	0.00

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Habitat Units
Urban	Developed land; sealed surface	0.001	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.013	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.150	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	2.543	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.305	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.343	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.705	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.016	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.045	V.Low	N/A - Other	Low	0	0.00
Urban	Developed land; sealed surface	0.105	V.Low	N/A - Other	Low	0	0.00
Woodland and forest	Other woodland; broadleaved	0.080	Medium	Moderate	High	15	0.43

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Habitat Units
Woodland and forest	Other woodland; broadleaved	6.345	Medium	Moderate	High	15	34.21
Woodland and forest	Other woodland; broadleaved	34.456	Medium	Moderate	Medium	15	177.69
Woodland and forest	Other woodland; broadleaved	0.383	Medium	Poor	Medium	5	1.41
Cropland	Cereal crops	23.253	Low	Condition Assessment N/A	High	1	51.61
Cropland	Cereal crops	18.038	Low	Condition Assessment N/A	Medium	1	38.29
Cropland	Cereal crops	18.466	Low	Condition Assessment N/A	Medium	1	39.20
Grassland	Modified grassland	4.068	Low	Poor	Low	1	7.85
Grassland	Modified grassland	2.510	Low	Poor	Low	1	4.84
Grassland	Modified grassland	0.014	Low	Poor	Low	1	0.03
Grassland	Modified grassland	0.015	Low	Poor	Low	1	0.03
Grassland	Modified grassland	1.474	Low	Poor	Low	1	2.84
Grassland	Modified grassland	0.028	Low	Poor	High	1	0.06
Grassland	Modified grassland	2.116	Low	Poor	High	1	4.70
Grassland	Modified grassland	0.042	Low	Poor	High	1	0.09
Grassland	Modified grassland	0.946	Low	Poor	High	1	2.10

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Habitat Units
Grassland	Modified grassland	0.038	Low	Poor	High	1	0.08
Grassland	Modified grassland	0.040	Low	Poor	High	1	0.09
Urban	Bare ground	0.061	Low	Poor	Low	1	0.12
Urban	Bare ground	0.225	Low	Poor	Low	1	0.43
Urban	Bare ground	0.210	Low	Poor	High	1	0.47
Grassland	Other neutral grassland	69.09	Medium	Poor	Medium	2	283.09
Grassland	Other neutral grassland	6.333	Medium	Poor	High	2	27.13
Heathland and shrub	Mixed scrub	0.023	Medium	Poor	High	1	0.10
Individual trees	Rural tree	0.002	Medium	Moderate	Medium	27	0.01
Grassland	Other neutral grassland	97.36	Medium	Moderate	Low	5	651.79
Woodland and forest	Other woodland; broadleaved	17.386	Medium	Moderate	Medium	15	89.66
Heathland and shrub	Mixed scrub	17.386	Medium	Moderate	Low	5	116.39
Grassland	Lowland calcareous grassland	5.563	High	Moderate	Medium	10	16.97
Lakes	Ponds (non-priority habitat)	1.391	Medium	Moderate	Medium	3	11.00
Grassland	Other neutral grassland	54.93	Medium	Moderate	High	5	422.90
Woodland and forest	Other woodland; broadleaved	9.809	Medium	Moderate	High	15	52.88

Broad Habitat	Habitat type	Area (ha)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Habitat Units
Heathland and shrub	Mixed scrub	9.809	Medium	Moderate	High	5	75.52
Grassland	Lowland calcareous grassland	3.139	High	Moderate	High	10	10.01
Lakes	Ponds (non-priority habitat)	0.785	Medium	Moderate	High	3	6.49
Total	**-**	**1379.98**	**-**	**-**	**-**	**-**	**5206.80**

Created Hedgerow Habitats

Habitat type	Length (km)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Hedgerow Units
Line of trees	0.082	Low	Moderate	Medium	20	0.18
Line of trees	0.055	Low	Poor	Medium	5	0.10
Native hedgerow	0.023	Low	Good	High	12	0.10
Native hedgerow	0.510	Low	Good	Medium	12	2.20
Native hedgerow	0.065	Low	Moderate	High	5	0.25
Native hedgerow	1.127	Low	Moderate	Medium	5	4.15
Native hedgerow	0.085	Low	Poor	High	1	0.19
Native hedgerow	0.183	Low	Poor	Medium	1	0.39
Native hedgerow – associated with bank or ditch	0.150	Medium	Moderate	Medium	5	1.10
Native hedgerow with trees	0.144	Medium	Good	High	20	0.97

Habitat type	Length (km)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Hedgerow Units
Native hedgerow with trees	0.538	Medium	Good	Medium	20	3.48
Native hedgerow with trees	0.130	Medium	Moderate	High	10	0.84
Native hedgerow with trees	0.392	Medium	Moderate	Medium	10	2.42
Native hedgerow with trees	0.018	Medium	Poor	High	1	0.08
Native hedgerow with trees	0.050	Medium	Poor	Medium	1	0.21
Native hedgerow with trees – associated with bank or ditch	0.030	High	Good	Medium	20	0.29
Native hedgerow with trees – associated with bank or ditch	0.025	High	Moderate	High	10	0.24
Species-rich native hedgerow	0.979	Medium	Moderate	High	5	7.54
Species-rich native hedgerow	9.605	Medium	Moderate	Medium	5	70.73
Species-rich native hedgerow – associated with bank or ditch	0.027	High	Good	High	12	0.36
Species-rich native hedgerow – associated with bank or ditch	0.365	High	Moderate	Medium	5	4.03
Species-rich native hedgerow with trees	0.311	High	Good	Medium	20	3.02
Species-rich native hedgerow with trees	0.25	High	Moderate	High	10	2.42
Species-rich native hedgerow with trees	0.122	High	Moderate	Medium	10	1.13
Species-rich native hedgerow with trees	0.025	High	Poor	Medium	1	0.16
Species-rich native hedgerow with trees – associated with bank or ditch	0.057	V.High	Moderate	Medium	10	0.70

Habitat type	Length (km)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Hedgerow Units
Total	**15.35**	**-**	**-**	**-**	**-**	**107.28**

Created Watercourse Habitats

Habitat type	Length (km)	Distinctiveness	Target Condition	SS	Time to target condition (yrs)	Watercourse Units
Culvert	0.004	Low	Poor	Low	1	0.00
Culvert	0.004	Low	Poor	Low	1	0.00
Culvert	0.004	Low	Poor	Low	1	0.00
Culvert	0.005	Low	Poor	Low	1	0.00
Culvert	0.004	Low	Poor	Low	1	0.00
Culvert	0.007	Low	Poor	Low	1	0.01
Culvert	0.005	Low	Poor	Low	1	0.00
Culvert	0.006	Low	Poor	Low	1	0.01
Culvert	0.004	Low	Poor	Low	1	0.00
Culvert	0.006	Low	Poor	Low	1	0.01
Total	**0.05**	**-**	**-**	**-**	**-**	**0.04**

Appendix G Statutory Biodiversity Metric Calculation

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2127.23
	Hedgerow units	98.69
	Watercourse units	13.55
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	64.44%
	Hedgerow units	17.28%
	Watercourse units	22.94%
Trading rules satisfied?	No - Check Trading Summaries ▲	

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