

# OTTERPOOL PARK

## Environmental Statement Appendix 7.21 - Biodiversity Net Gain Calculations

MARCH 2022



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## Executive Summary

Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake a Biodiversity Net Gain assessment to inform an Environmental Impact Assessment (EIA) for the proposed Development to accompany an amendment to the outline planning application. The proposed Development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site".

The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20. The site is largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas. The site area encompasses the proposed Otterpool Park Area Development).

In line with the Environment Act (2021), 25 Year Plan for the Environment (HM Government, 2018) and the National Planning Policy Framework (MHCLG, 2019), new development should identify and pursue opportunities for securing measurable net gains for biodiversity and for the wider environment.

This report discusses the methodology for demonstrating how the outline application can achieve biodiversity net gain (in line with planning policies). The calculation applied to the baseline and an illustrative masterplan (which demonstrates a way that the development could be delivered within parameters fixed at planning) is that in the Biodiversity Metric (BM) 3.0 (Panks *et al.*, 2021a).

When considering baseline conditions, the BM 3.0 metric takes account of two values. First, it is necessary to assign a Distinctiveness value on the scale; Low (2), Medium (4), High (6), and Very High (8) The second is the Condition of the habitat on the scale; Poor (1), Moderate (2) and Good (3). The Condition assessment utilised is that provided in the BM3.0 guidance. Where valuations for habitats are open to interpretation, a higher valuation was always utilised as a precautionary approach.

Post development, the different 'typologies' of GI (Green Infrastructure) were assessed for their biodiversity value, based upon the areas and types of habitats within the typology. The valuation of these habitats is also based on their Condition and Distinctiveness, but also takes into account the difficulty and time taken to create these habitats.

Parameters for the built development parcels were also compiled, which allow for a 'Biodiversity Unit' (BU) value to be applied to these areas of the site (as the design of these areas will ensure that they have biodiversity value).

The before and after Development calculations allow for a BU valuation of biodiversity change to be calculated.

Overall, there is the potential for the Development to achieve a BU valuation change from 2021.05 BU to 2455.82 BU, an increase of 434.77 BU, or an approximately 22% increase overall.

The development also has the potential to deliver an uplift in the BU attributable to hedgerows from 131.65 BU to 232.78 BU, or an approximate 75% increase.

The development also has the potential to deliver an uplift in the BU attributable to rivers from 73.69 BU to 85.19 BU, or an approximate 15.6% increase.

This change is largely due to:

- Ensuring the development avoids the most valuable areas;
- Buffering features such as the river corridor and woodlands in appropriate, high quality habitats;

- Creation of new areas of valuable habitat, including wetlands, ponds, areas of tree planting etc;
- Inclusion of over 50% GI within the development;
- Maximisation of the ecological value of the built development areas (including the inclusion of hedgerow).

In conclusion, the net gain calculations presented demonstrate that the proposed Otterpool Park Development can achieve biodiversity net gain and therefore comply with relevant planning policies and national requirements in the Environment Act that require this.

# 1 Introduction

## 1.1 Background

1.1.1 Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake a Biodiversity Net Gain assessment to inform an Environmental Impact Assessment (EIA) for the proposed Development to accompany an amendment to the outline planning application. The proposed Development is 'Otterpool Park', a garden settlement located within Folkestone, Kent. The development area has been identified as an 'area of search'; hereafter, the area of search is referred to as "the site". This Appendix provides the biodiversity net gain calculations that are required in accordance with industry guidance (And the Environment Act 2021) to support the impact assessment of the proposed 'Otterpool Park' Development within Kent.

## 1.2 Site Location & Setting

1.2.1 The site is located within Folkestone, Kent within the administrative boundary of Folkestone and Hythe District Council (F&HDC) and spans a large area located immediately south of Junction 11 of the M20. The site as referred to in this report is largely agricultural in nature with the majority of the site comprising arable and pasture fields, a disused horseracing course with an artificial lake ('Folkestone Racecourse Lake'), areas modified from historical use (airfields), existing historic settlements and relatively new industrial areas.

1.2.2 The M20 motorway, Channel Tunnel Rail Link and Westenhanger Station are located to the north of the site, beyond which lie the villages of Stanford and Postling within a largely rural setting including the Kent Downs Area of Outstanding Natural Beauty (AONB). This AONB extends to the east, beyond which lies the town of Hythe, and to the south where it includes Lympe village. In addition, East Stour River flows through the site in a north-east to west direction. The site is centred on BNG TR 111 363.

## 1.3 Proposed Development

1.3.1 The proposed Development is located on approximately 589 ha of land as shown in Figure 1. The development proposals are submitted in outline for a new garden settlement.

1.3.2 The key documents within the outline planning application for this assessment comprise:

- The Development Specification (ES Appendix 4.1), Parameter Plans (ES Appendix 4.2) and Strategic Design Principles (ES Appendix 4.3);
- The Illustrative Masterplan (ES Appendix 4.5) which demonstrates one way in which the proposed Development could be build out within the requirements of the parameters (submitted in support); and
- Green Infrastructure Strategy (ES Appendix 4.11)(submitted in support).

1.3.3 Following consultation on the ES submitted as part of the 2019 planning application (the '2019 ES'), a 'three-tier' approach is proposed for the amended planning application and accompanying EIA. This comprises the three stages of the planning process: Tier 1 Outline Planning Application, Tier 2 detailed masterplan and Tier 3 reserved matters application. The design and mitigation will therefore evolve in line with the tiers. The table below (Table 1) outlines the proposed methodology for evolving the planning permission through the tiers in relation to biodiversity net gain.



Table 1: Methodology for the evolution of ecological mitigation through the tiered planning process

Aspect of the development	Tier 1	Tier 2	Tier 3
Biodiversity net gain	Assessment of the entire OPA development to determine if the parameter plans and illustrative masterplan can deliver the required biodiversity net gain.	No further assessment	Assessment of each Tier 3 application area as it progresses to ensure that it delivers the required net gain to deliver on the target for the entire site.

- 1.3.4 In line with the table above, this document assessed the potential for the proposed Development as secured within the parameter plans (ES Appendix 4.2), and deliverability demonstrated through the Illustrative Masterplan (ES Appendix 4.5) to achieve the required biodiversity net gain.
- 1.3.5 It must be noted that this document only assesses the potential to achieve these targets, further checks at Tier 2 and 3 for each application will be required to ensure that the potential achievements are secured.
- 1.3.6 It must be noted that the post construction typologies are habitat related only and may have multiple uses, for example a cycleway is hardstanding but may be used as an emergency access, but this does not impact the habitat typology.

## 2 Methodology

### 2.1 Biodiversity Metric 3.0

- 2.1.1 The purpose of this document is to estimate the potential net change in biodiversity of the proposed Development. This approach utilises information on the habitats and features of the site before and after the proposed habitat loss and mitigation through management to calculate a biodiversity value, utilising this information to calculate a change in the biodiversity value of the site.
- 2.1.2 These calculations were undertaken using the Biodiversity Metric (BM) 3.0 issued by Defra and Natural England (details can be found at Panks et al. (2021a and b)), a spreadsheet-based tool into which data can be entered to carry out biodiversity net gain calculations.
- 2.1.3 Data is entered into the metric using the UK habitat classification typologies. The BM 3.0 assesses area-based habitats (woodland, grassland etc) and linear features (hedgerows and rivers) separately, but through broadly the same methodology. As such, the following sections are of relevance to all of these habitat types.
- 2.1.4 When considering baseline conditions, the metric takes account of several factors, detailed below in Table 2. The numbers in brackets show the multipliers used by the metric for each category.

Table 2: Biodiversity Metrics Criteria

Evaluation	Values assigned	Criteria
Habitat type	UK habitat classification typologies	Based upon “species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats”
Size of habitat parcel	Area measured in hectares and linear features measured in kilometres	N/A
The distinctiveness of the habitat type	Value predetermined for each habitat type on a scale of Very Low (0), Low (2), Medium (4), High (6) and Very High (8)	Distinctiveness considers the rarity of the habitat, the amount of the percentage of habitat protected in Sites of Special Scientific Interest (SSSIs), the UK Priority Habitat Status and the European Red List Categories for the habitat
The condition of each habitat parcel	Value assigned based on a scale of Poor (1), Fairly Poor (1.5), Moderate (2), Fairly Good (2.5) and Good (3). For some habitat types this is pre-determined	Condition sheets (provided in Panks et al. (2021a and b)) were used where possible to assess the condition
Whether the parcels are in locations identified as local nature priorities	Value assigned based on a scale of Low (1), Medium (1.1) and High (1.15) strategic importance	N/A

2.1.5 The following resources were used to inform the assessment:

- Environmental Statement (ES) Appendix 7.3: Habitat and Hedgerow Survey Report (2021);
- Aerial imagery (Google Earth, 2020); and
- MAGIC (2020) mapping.

## Unit calculation

2.1.6 To calculate the biodiversity units of the site as a whole, the unit for each of the habitat types is calculated and then multiplied by the size of this habitat. The unit number is based upon the habitat’s distinctiveness, condition and strategic significance. For non-linear habitats, such as woodland or grassland, the area of the habitat is used to assess its size, whereas length is used for linear habitats, such as hedgerows and rivers. The biodiversity unit numbers of area-based habitats and linear habitats (hedgerows and/or rivers) are separate and cannot be summed, as such they should be evaluated separately. Area based habitats and hedgerows are largely assessed in the same way and any differences are highlighted below.

2.1.7 This section describes how this proxy unit for biodiversity has been applied to the existing ‘before’ habitats and the proposed ‘after’ (post-intervention) habitats. Full details of the BM 3.0 can be found in Panks et al. (2021a and b).

## Habitat size

2.1.8 The size of the different proposed habitats was calculated in ArcGIS.

## Habitat distinctiveness

2.1.9 The metric assigns a pre-defined distinctiveness band to each of the habitats and linear features.

## Area based habitats

2.1.10 As detailed in Panks et al. (2021a), this assessment is based upon “species richness, rarity (at local, regional, national and international scales), and the degree to which a habitat supports species rarely found in other habitats”. Table 3 provides detail of the bandings to which each area-based habitat is assigned.

Table 3: Area based habitat distinctiveness valuation bandings

Distinctiveness band	Multiplier	Typical habitats
Very High	8	Priority habitats as defined in Section 41 of the Natural Environment and Rural Communities (NERC) Act (HMSO, 2006) that are highly threatened, internationally scarce and require conservation action e.g. blanket bog  Small amount of remaining habitat with a high proportion unprotected by designation.  Endangered or Critical European red list habitats.
High	6	Priority habitats as defined in Section 41 of the NERC Act (HMSO, 2006) requiring conservation action e.g. lowland fens  Remaining Priority Habitats not in very high distinctiveness band & other red list habitats.
Medium	4	Semi-natural habitats not classed as a Priority Habitat but with significant wildlife benefit, e.g. mixed scrub.

Distinctiveness band	Multiplier	Typical habitats
		One Priority Habitat (arable field margins).
Low	2	Habitat of low biodiversity value e.g. temporary grass and clover ley. Agricultural and Urban land of lower biodiversity value.
Very low	0	Little or no biodiversity value e.g. hard standing or sealed surface Urban – artificial structures which are un-vegetated, sealed surfaces or built linear features of very low biodiversity value.

## Hedgerows and lines of trees

2.1.11 The distinctiveness of hedgerows and lines of trees is based upon their physical structure, the woody species composition and any association with physical features, such as banks and ditches. An assessment of ground flora is not included within the metric. Table 4 details the distinctiveness categories of each of the types of hedgerows and line of trees. Further detail is provided in Panks et al. (2021a).

Table 4: Hedgerow distinctiveness categories and multipliers

Distinctiveness band	Multiplier	Typical habitats
Very High	8	Native species rich hedgerow with trees -with bank or ditch.
High	6	Native species rich hedgerow with trees. Native species rich hedgerow - with bank or ditch. Native hedgerow with trees - with bank or ditch.
Medium	4	Native species rich hedgerow. Native hedgerow - associated with bank or ditch. Native hedgerow with trees. Line of trees (ecologically valuable). Line of trees (ecologically valuable) - with bank or ditch.
Low	2	Native hedgerow. Line of trees. Line of trees - with bank or ditch.
Very low	1	Any hedgerow containing 20% or more canopy cover of a non-native species.

## Habitat condition assessment

2.1.12 The condition of the habitat is defined as: “the biological ‘working-order’ of a habitat type judged against the perceived ecological optimum state for that particular habitat.” (Panks et al., 2021b). This provides a measure of variation in the quality of areas of the same habitat type.

## Area based habitats

2.1.13 A habitat condition assessment sheet is provided for each habitat type within Panks *et al.* (2021b), which should be used to assign each habitat parcel to each of the categories detailed in Table 5. Each condition sheet is composed of a list of pass/fail criteria. The ratio of ‘passes’ to ‘fails’ is used to determine the habitat condition.

Table 5: Condition bandings for the habitats on the site

Category	Multiplier
Good	3
Fairly good	2.5
Moderate	2
Fairly poor	1.5
Poor	1
N/A – Agriculture	1
N/A – other	0

## Hedgerows

2.1.14 A single condition sheet is provided for hedgerows, although lines of trees have a separate sheet. Both of these can be found in Panks *et al.* (2021b), along with the pass/fail ratios for both types of linear feature. The condition categories and multipliers are the same as shown in Table 5, but ‘fairly good’ and ‘fairly poor’ are not options.

2.1.15 Hedgerow data was taken from ES Appendix 7.3, with additional data collected during the surveys in 2020 and 2021, where this was required, and is presented in Appendix B and Figure 1.

## Strategic significance assessment

2.1.16 Strategic significance assesses the value of habitats from the point of view of environmental objectives and preferred locations for biodiversity. Local and national policy was reviewed to quantify the strategic significance of each habitat area. Table 6, based upon Table 5-4 in Panks *et al.* (2021b), was used to assist with this assessment.

Table 6: Strategic significance categories and multipliers

Category	Description	Multiplier
High	High potential – area/action formally identified within a local plan, strategy or policy.	1.15
Medium	Good potential – location ecologically desirable but area/action not identified in local plan, strategy or policy.	1.1
Low	Low potential - area/action not identified in any local plan, strategy or policy. No local strategy in place.	1

2.1.17 The Kent Nature Partnership’s 2020-2045 Biodiversity Strategy (2020) was used to assign strategic significance in this assessment. It does not identify locations specifically, but it does identify priority habitats for the Kent region; it is considered that this is functionally equivalent to being “within area formally identified in local strategy”. Those habitats were then used as guide, alongside professional opinion, to identify habitats that are ecologically desirable for Kent but not specifically identified as with the priority habitats.

### Baseline calculations

2.1.18 The number of biodiversity units provided by each habitat currently within the intervention site is calculated by multiplying the values for Distinctiveness, Condition, Strategic location and the size of each habitat in hectares (ha). Hedgerows are evaluated in the same way, but base upon their length (in km), rather than area. This value represents the baseline condition of the site, in terms of biodiversity units. Further detail can be found in Panks et al. (2021a and b). The site survey, satellite imagery (Google Earth, 2021) and MAGIC (2021) mapping were used to inform these baseline calculations.

### Post-intervention calculations

2.1.19 The site is then reassessed for the conditions that will be present under the habitat creation proposal. The number of biodiversity units provided by each habitat within the site is calculated in the same way as the baseline habitats, but with the additional multipliers detailed in Table 7. Further detail regarding these multipliers is presented in 0.

Table 7: Risk components included in post-intervention calculations

Risk factor	Description
Difficulty of creating or restoring a habitat	A standard score based on how difficult the habitat type is to create.
Temporal risk	A standard score based on how long the habitat type takes to establish.

## Post-intervention delivery risks

### Difficulty of creating or restoring a habitat

2.1.20 This ‘risk’ relates to the difficulty of the habitat restoration or recreation. There are four bands, from Low difficulty to Very high difficulty, with the value multiplier shown below in Table 8.

Table 8: Difficulty categories and multiplier

Category	Multiplier
Very high	0.1
High	0.33
Medium	0.67
Low	1

2.1.21 Different habitat change scenarios are attributed different levels of risk (risk around the confidence in the successful establishment of habitats) and different multipliers are applied to reflect this. Three distinct habitat change scenarios are recognised in the Biodiversity Metric 3.0:

- **Habitat creation.** Where one habitat type is replaced by another, or the habitat is destroyed (e.g. by development works) and the same habitat is recreated.
- **Habitat enhancement.** Enhancing habitat is where one improves its distinctiveness and / or condition. An example of enhancement would be the enhancement of a derelict chalk grassland dominated by scrub and non-calcareous grasses to a continuous area of chalk grassland with managed woody species and an abundance of calcareous grasses.

2.1.22 Enhancement carries less risk and therefore can provide a greater unit uplift.

### Temporal risk

2.1.23 Temporal risk is a factor of the time it takes for the habitat to reach target condition. This can be reliant on soil nutrient status, soil type and pH, site preparation, climate and the neighbouring habitats and species matrix available to colonise the new or restored habitat. The timeframe is also resource dependent. With sufficient time and resources most habitats can be recreated more rapidly but a more gradual process may be more beneficial to wildlife in the longer term.

2.1.24 For the purposes of the Defra Biodiversity Metric 3.0 average time estimates are used, accepting that there will be variation from this proxy estimate. For example, some sites will take longer, where conditions are more nutrient enriched or higher altitude or north facing. Average estimates of the time to target condition were largely expert driven and build upon the considerations that shaped judgements of the difficulty to create or restore a habitat. They were additionally informed by field experience, industry case studies and a body of practical experience. The time to target condition varies between 0 and greater than 30 years, with 0 years having a multiplier of 1. The multiplier decreases by 3.5% per year.

### Spatial risk

2.1.25 A separate risk multiplier is applied to post-intervention sites outside of the site. This incentivizes the utilisation of sites near the intervention site, for ecological and social reasons. Sites within the same local planning authority area (LPA) or National Character Area (NCA), are deemed sufficiently close to address ecological and social concerns. The LPA would need to provide agreement for any offsets outside of their authority area. Higher multipliers are assigned to more distant sites, as shown in Table 9, which results in a decrease in the value of an off-site location with increasing distance.

Table 9: Off-site risk categories (LPA – local planning authority area, NCA – National Character Area)

Category	Multiplier
Compensation inside LPA or NCA of impact site.	1
Compensation outside LPA or NCA of impact site but in neighbouring LPA or NCA.	0.75
Compensation outside LPA or NCA of impact site and beyond neighbouring LPA or NCA.	0.5

### 'Pseudo' Double counting areas

2.1.26 The total area input into the tool can be greater than the total area of the site. This is due to the three-dimensional nature of certain habitats. For example, the area covered by a tree is approximately the area covered by its canopy, but if an area of grassland is underneath, both would be included in the metric. As such the area of the tree canopy is 'counted' twice and can result in the area in the metric being larger than the area of the site.

### Calculation of gains or losses

2.1.27 The net change in biodiversity or hedgerow units on and off-site is calculated within the tool by subtracting the baseline units from the post-intervention units. The overall net change is the sum of the change in units on-site and off-site. The percentage net gain is then calculated by dividing this overall net change by the number of baseline units on the site, as shown in the equation below:

$$\text{overall percentage net gain} = \frac{\text{change in units on site} + \text{change in units off site}}{\text{baseline units on site}} \times 100$$

2.1.28 A positive value indicates a net gain has been made and a negative value indicates a net loss has been made.

### Changes in broad habitat type calculations

2.1.29 The UK habitat classification system is hierarchical in structure, so specific habitat types can be grouped into broad habitat types. The changes in area and biodiversity units associated with each of these broad habitat types was calculated using the baseline and post-intervention data.

### Areas excluded from the assessment

2.1.30 The metric is not designed to assess impacts to habitats within statutory designated sites or "irreplaceable" habitats, as defined in Panks et al. (2021a and b). There are no irreplaceable habitats, such as ancient woodland, or statutory designated sites present within the site, therefore all habitats are assessed.

## 2.2 Data Preparation, Assumptions and Limitations

### Baseline Data

2.2.1 As stated above, BM 3.0 is designed to work with the UKHab Habitat Classification system, however the habitat data for the ES Appendix 7.3 in 2016-2018 was collected in the Phase 1 Habitat Classification system. As a result, the existing habitat data had to be converted into a format compatible with BM 3.0. Given that it did not exist at the time, the PEA habitat data was not collected with BM 3.0 in mind so certain assumptions had to be made on the most appropriate habitat categories and condition scores to use. In all cases a precautionary approach was undertaken to ensure that habitats were not undervalued in the absence of the appropriate data. At later stages of planning, update surveys will be undertaken that will collect data specifically for use in BM 3.0 to provide a more precise assessment. The results of this conversion from Phase 1 to UKHab, and the following condition assessment can be found in Appendix A.

### Post Intervention Data

2.2.2 The Otterpool Park development is currently only in the outline stage of the planning process and as such, a detailed landscape and habitat design and management plan is not currently available. In order to carry out this assessment, the Otterpool Park Green Infrastructure Strategy (GI Strategy)(ES Appendix 4.11) was used to produce an overview of the potential habitats within the site drawing of the site that sorted it



into a number of land-use categories which was then further refined into land-use typologies where the land-use categories were found to be functionally identical, a breakdown of the conversions can be found in Appendix D . For each of these an assumption was generated of the likely habitat composition by percentage of the typology, and the likely condition of those component habitats. The percentages generated here were then combined with the area coverage of the typologies to generate the respective area coverage of each component habitat. The details of these typologies can be found in Appendix D and Appendix E, and these are presented on Figure 4.

2.2.3 The composition of the post construction habitat typologies and assumed condition of those component habitats was informed by:

- The Illustrative Masterplan;
- The Otterpool Park Green Infrastructure Strategy;
- Requirements for Sustainable Urban Drainage Systems (SuDS) and drainage;
- Habitat requirements secured within the species mitigation strategies (ES appendix 7.18);
- A precautionary approach which balances the best possible habitat that is likely achievable against the varied levels of potential impact from people who will come to live on the site;
- Cross referencing assumptions made against the BM 3.0 condition assessment sheets;
- Discussions with the project landscape and master planning teams;
- Professional opinion based on experience of what is achievable on similar developments;
- Standardised design requirements for features such as SUDs.

## **Rivers assessment**

### Baseline assessment

2.2.4 The East Stour river (along with a tributary of the river) is present within the site which required assessment through the river element of the metric.

2.2.5 Watercourses are assessed in a similar manner to area based and hedgerow habitats, with distinctiveness, condition and strategic significance being assessed. However, the assessment also includes a measure of encroachment into the riparian zone and into the watercourse. The size of watercourses is measured in their length. Each of these factors is discussed in the sections below.

2.2.6 The site surveys were undertaken between the 30<sup>th</sup> June and 2<sup>nd</sup> July 2020. The site survey includes an assessment of the extent and character of:

- Bank and bed sediments;
- Morphological and hydrological features/habitats;
- Riparian and aquatic vegetation extent and structure;
- Presence and extent of non-native invasive species;
- Bank top land pressures; and
- Human interventions within the river channel.

### Watercourse length

2.2.7 The size of a watercourse is measured by its length, following the path of the watercourse.

## Habitat distinctiveness

2.2.8 Watercourse habitats are classified as one of the following, each with a predetermined distinctiveness score, as shown in Table 10.

Table 10: River habitat types

Habitat	Distinctiveness
Priority habitats	Very high
Other rivers and streams	High
Canals	Medium
Ditches	Medium
Culvert	Low

## Habitat condition

2.2.9 Habitat condition is assessed differently to the condition sheet approach used for area and hedgerow habitats. Condition is assessed following the MoRPh (Modular River Physical) survey methodology. This includes a site assessment and a desk-based assessment. This assessment requires training and accreditation to carry out. The methodology assesses quality indicators, such as the physical features of the water course, basic floral diversity and the presence of non-native species (see section 0 for further details). The score for each of the 32 condition indicators is determined by the results of the MoRPh survey. The positive and negative indicators score from 0 to +4 and 0 to -4 respectively. The average of the positive and negative condition indicator scores are summed, producing a preliminary condition score for each subreach. The Preliminary Condition Score is translated into a Final Condition Score (5-good, 4-fairly good, 3-moderate, 2-fairly poor, 1-poor) based upon the River Type. Cartographer software is used to carry out this analysis.

2.2.10 For the condition assessment, rivers are divided into reaches (i.e. sections) of a similar character. Changes in character that would divide reaches include the presence of a significant confluence or change in planform of the river. The condition of each of the reaches is the result of an average of the condition scores for each of the subreaches.

## Strategic significance

2.2.11 As with area and hedgerow habitats, strategic significance assesses the spatial significance of habitats. The levels of strategic significance are shown in Table 11.

Table 11: Watercourse strategic significance

Distinctiveness category	Description of distinctiveness multiplier	Strategic multiplier
High	Local Plans River basin Management Plan Catchment Plans Catchment Planning System Priority Habitats for Restoration	1.15
Low	Low potential/ action not identified in any plan	1

## Riparian zone

2.2.12 The riparian zone is classified as the area within 10m of the bank top. This area is included as part of the watercourse assessment due to its potential impact on the river function. This area is also included as part of the area-based assessment.

## Watercourse encroachment

2.2.13 Development within the banks of the watercourse is classified as watercourse encroachment. This can either be existing development within the baseline, or new development. The watercourse encroachment bandings are shown in Table 12.

Table 12: Watercourse encroachment bands

Watercourse encroachment band	Multiplier	Description	Examples
No encroachment	1.0	<5% bank length comprising an engineered bank revetment and no encroachment into channel	N/A
Minor	0.8	5%-20% bank length comprising engineered bank revetment or encroachment up to 10% channel width	Small headwalls, jetties, pontoons
Major	0.5	>20% bank length comprising an engineered bank revetment or encroachment >10% of the channel width	Weirs, large headwalls, bank revetment.

## Riparian encroachment

2.2.14 Development within the riparian zone is classified as riparian encroachment. This can either be existing development within the baseline, or new development. The levels of riparian encroachment are described in Table 13.

Table 13: Riparian encroachment bands

Riparian encroachment band	Multiplier	Description
No encroachment	1.00	No development within 10m of bank top
Minor	0.95	Any development 8-10m from bank-top (up to 100% of area) or where development footprint occupies 0-10% of the riparian zone area 4-10m from bank-top.
Moderate	0.85	Any development where footprint occupies between 10-25% of the riparian zone area 4-10m from bank-top.
Major	0.75	Any development 0-4m from bank-top (except a maximum of 5% footprint for amenity features) or where development footprint occupies >25% of the total riparian zone area.

## Change scenarios

2.2.15 As with area-based habitats, watercourse habitat can be retained, enhanced or created. Retained habitats are not significantly impacted positively or negatively. Enhancing watercourses can improve distinctiveness or condition. Rivers, by their nature, cannot be created. However, there are some circumstances where it is feasible, such as diverting channels outside of their natural alignment. Ditches, canals and culverts can be created in a more straightforward manner. As with area-based habitats, appropriate risk multipliers are applied to these interventions.

## Post-development assessment

2.2.16 The post-development status of the river is predicted using the same criteria as in the baseline. To predict the river condition, the post-development proposals were assessed against each of the scoring indices (see Table 2 and Appendix 2 in Gurnell et al. (2020) for further details regarding these indices). The approach was taken to assess the condition of each of the sections of the watercourses in the same manner. As each of the sections will be managed in a similar way and as proposals are currently at a high level, this level of granularity was deemed appropriate. As a result, a single assessment of the overall watercourse condition was carried out, that represented the expected character of the watercourses post-development.

## 3 Results

### 3.1 Introduction

3.1.1 This section details the results of the biodiversity net gain assessment. It first shows the results of baseline assessments for the area based habitats (Section 3.2), the hedgerows (Section 3.3), and finally the river habitats (Section 3.4). This is followed by the results of the post-intervention assessments for the area-based habitats (Section 3.5), the hedgerows (Section 3.6 and 3.7), and river habitats (Section 3.8.3.8).

### 3.2 Baseline Biodiversity Units (Area-based Habitats)

3.2.1 The site is approximately 589ha in area, however the total coverage of habitat is approximately 596.69ha due to the three-dimensional nature of some habitats (as explained in section 0). A description of the habitats considered to be present on the site in the original PEA, alongside how they were converted into UKHab typologies and their assigned condition scores, can be found in Appendix A with full condition assessments in Appendix B.

3.2.2 Given the large size of the site, a summary of the results of the baseline calculator for each habitat type present is provided in Table 14; the full calculations can be found in the associated calculator tool (Appendix F).

3.2.3 The baseline currently delivers 2021.05 biodiversity units for area habitats.

3.2.4 The habitats present on the site that were assessed for the baseline are presented in Figure 1.

Table 14: Baseline habitat value summary

UK habs/ broad habitat	UK habs/habitat type	Total Area (ha)	Strategic significance	Total BU	BU/Ha
Cropland	Cereal crops	306.9778	Area/compensation not in local strategy/ no local strategy	613.9555	2.00
Grassland	Modified grassland	228.2520	Area/compensation not in local strategy/ no local strategy	913.008	4.00
	Other neutral grassland	9.4870	Location ecologically desirable but not in local strategy	83.4852	8.80
Heathland and shrub	Mixed scrub	3.3436	Area/compensation not in local strategy/ no local strategy	16.3368	4.89
Lakes	Ponds (Non-priority habitat)	0.4180	Within area formally identified in local strategy	3.3238	7.95
	Ponds (Priority habitat)	2.3188	Within area formally identified in local strategy	43.9376	18.95
Sparsely vegetated land	Ruderal/ephemeral	3.8740	Area/compensation not in local strategy/ no local strategy	14.4158	3.72

UK habs/ broad habitat	UK habs/habitat type	Total Area (ha)	Strategic significance	Total BU	BU/Ha
Urban	Developed land; sealed surface	15.6241	Area/compensation not in local strategy/ no local strategy	0.0000	0.00
	Introduced shrub	0.4749	Area/compensation not in local strategy/ no local strategy	0.9498	2
	Urban tree	11.044	Within area formally identified in local strategy	127.01	11.5
	Vacant/derelict land/bare ground	2.3746	Area/compensation not in local strategy/ no local strategy	4.7492	2
Woodland	Lowland mixed deciduous woodland	11.2821	Within area formally identified in local strategy	162.9157	14.44
	Other woodland; broadleaved	0.9659	Location ecologically desirable but not in local strategy	5.4373	5.63
	Other woodland; mixed	3.3966	Area/compensation not in local strategy/ no local strategy	29.8463	8.00
	Wood-pasture and parkland	0.1363	Area/compensation not in local strategy/ no local strategy	4.3600	8
<b>Totals</b>	<b>N/A</b>	<b>589.33</b>	<b>N/A</b>	<b>2021.05 (due to rounding to 2 d.p.)</b>	<b>N/A</b>

3.2.5 The site had a total BU/Ha of 3.43BU/Ha. A visual representation of Table 14 is also presented in Figure 2.

### 3.3 Baseline Biodiversity Units (Hedgerows)

3.3.1 Data on hedgerows was collected on site, as reported in ES Appendix 7.3 and is shown on Figure 3. Each hedgerow was numbered from OT01 – OT66. The habitat type of each hedgerow was initially collected using ‘Phase 1’ typology (as presented in ES Appendix 7.3, however the data collected to inform the Hedgerow regulations assessment included sufficient information to allow these to be converted to UKHabs for the BNG assessment. The table below (Table 15) details the categorisation of the hedgerows according to UKHabs and the respective lengths of the hedgerows.

Table 15: Hedges on site in the baseline state

Hedge type	Hedge Identifier	Length (m)
Native species Rich hedge and ditch	OT8	137
	OT22	255
	OT50	225

Hedge type	Hedge Identifier	Length (m)
Native species poor hedge and ditch	OT2	292
	OT24	180
	OT25	263
	OT31	206
	OT33	239
Native species rich hedge with ditch and trees	OT1	287
	OT19	291
	OT32	190
	OT34	614
	OT62	60
	OT63	446
Native species poor hedge with ditch and trees	OT3	192
	OT4	167
	OT26	232
	OT35	300
	OT53	97

3.3.2 Condition assessments for each of the hedgerow typologies are presented in Appendix C. Hedgerows of each type were grouped for the condition assessments to make the data manageable. Where a different result in a category applied to hedgerows within a habitat type, the highest value was used for the entire subset of hedgerow within that group. As such, the condition assessment represents a precautionary assessment of the baseline condition of the hedgerows on site.

## 3.4 Baseline River Conditions and Valuation

### River typology

3.4.1 The watercourses on the site are not on the priority rivers map<sup>1</sup>. They were also not ditches, canals or culverts, so they were assessed as being 'other rivers and streams'.

### River condition

3.4.2 The condition assessment of the reaches is presented in Table 16, with the locations of the reaches shown in Image 1 The condition indicator scores for each of the sub reaches in presented in Appendix F.

<sup>1</sup> <https://naturalengland-defra.opendata.arcgis.com/datasets/priority-river-habitat-rivers-england/explore?location=52.923443%2C-1.967810%2C7.12>

Table 16: Condition assessments

Reach	Condition
East stour reach 1	Moderate
East stour reach 2	Moderate
East stour reach 3	Moderate
East stour tributary reach 1	Moderate

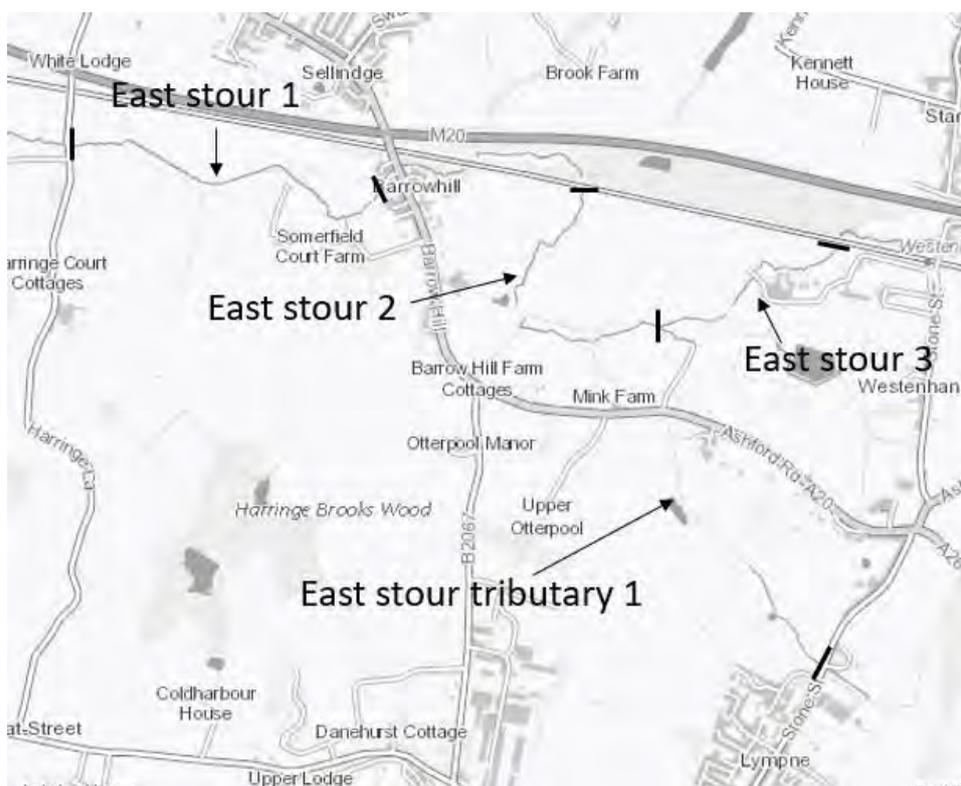


Image 1: Reach map for watercourses within the site

## Strategic significance

3.4.3 The watercourses are considered to be of strategic significance (marked as within local plans), as there is a management plan for this system<sup>2</sup>.

## Encroachment

3.4.4 Throughout all of the watercourses within the site there is not significant encroachment into the riparian zone or the channel itself. Further, any minor encroachment will not have an impact of the overall condition of the watercourses.

## Baseline unit total

3.4.5 As presented in Table 17, the baseline biodiversity unit value of the river habitats is 73.69 river units.

<sup>2</sup> <https://kentishstour.org.uk/about-the-stour-valley/our-stour/responsible-bodies/east-kent-catchment-improvement-partnership/>



Table 17: Baseline River unit totals

River reach	Length (km)	Units
East stour reach 1	1.44	19.87
East stour reach 2	1.28	17.66
East stour reach 3	0.9	12.42
East stour tributary reach 1	1.72	23.74
<b>Total</b>	<b>5.34</b>	<b>73.69</b>

## 3.5 Outline Landscape Proposal

- 3.5.1 As previously stated, a detailed landscape plan does not currently exist for the development and so an outline plan has been produced based on land use typologies (presented in Figure 4). Several assumptions were made in the production of this plan in order to carry out the calculations:
- any existing grassland that will come to form any of the proposed parks will be protected from impact during the development process so that it can be enhanced; and
  - that all other baseline habitat will be lost.
- 3.5.2 At later stages of design these assumptions may become invalid, however they are considered appropriate and precautionary for this stage and can be adjusted for further iterations of these calculations as the design is refined.
- 3.5.3 Based on this outline proposal, the post-intervention biodiversity units that could be achieved on the site, based on the current GI proposal total 2455.82BU, representing an increase in biodiversity units of 434.77, which is an 21.51% gain.
- 3.5.4 The typologies in the GI strategy (ES Appendix 4.11) are not habitats and are defined by their proposed purpose/s within the proposed Development. However, it is possible to estimate with a degree of confidence the habitats that will be within these typologies due to the requirement for these habitats to be included to deliver the purpose of the areas. As such each typology is subdivided into an estimated proportion of each habitat that it is likely to contain. This is used to provide a weighted overall biodiversity value for the typologies.
- 3.5.5 A summary of the biodiversity units generated by each land use typology on the site can be found below in Table 20, and a breakdown of the details of each land-use parcel is included in Appendix D and Appendix E. Two illustrative examples of how the details of these typologies were arrived at are provided below in Table 18 and Table 19. to show how Section 0 of the methods was applied in practice.

Table 18: Proposed Development Areas Typology Breakdown

Proposed Development Areas							
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Developed land; sealed surface	45.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00
Vegetated garden	30.00%	Low	Poor	Area/compensation not in local strategy/ no local strategy	Low	1	1.93
Mixed scrub	5.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69
Intensive green roof	10.00%	Medium	Good	Location ecologically desirable but not in local strategy	Medium	10	6.19
Rain Garden	5.00%	Low	Moderate	Location ecologically desirable but not in local strategy	Low	3	3.95
Urban trees	10.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	27	3.36
Modified grassland	5.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47
Total	110%	N/A	N/A	N/A	N/A	N/A	1.95

## COMMENTARY

The Defra Metric 3.0 guidance advises that areas of residential development are typically comprised of an approximate 70:30 ratio of developed land; sealed surface (houses) to vegetated gardens. This basic approach was used to generate this breakdown however it was adapted slightly to account for the fact that the GI Strategy (ES Appendix 4.11) defines the proposed Development as a “garden settlement” and would therefore have a greater composition of soft landscaping than a typical development. Some of the buildings are likely to be designed to incorporate green roofs and the public areas within these parcels are also expected to include features such as tree and scrub planting, road verges and rain gardens or Sustainable Drainage Solutions (SuDS). The condition scores were guided by the likely impact the residents could have on these features i.e., the green roofs will be inaccessible and therefore management can be designed to achieve the best possible outcome, while other features such as the rain gardens are limited to moderate condition as factors including visual amenity requirements and foot traffic will limit the possible management. These assumptions are supported by experience of a development of similar scope and design that is further along in its timeline; Northstowe in South Cambridgeshire.

Table 19: Proposed Burial Ground Typology Breakdown

Proposed Burial Ground							
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Developed land; sealed surface	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00
Other woodland; broadleaved	30.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39
Other neutral grassland	65.00%	Medium	Good	Location ecologically desirable but not in local strategy	Low	10	9.24
Total	100%	N/A	N/A	N/A	N/A	N/A	6.28

#### COMMENTARY

The basis of this typology comes from comparison with other woodland burial sites throughout the UK. Such sites typically take the form of either primarily denser woodland with glades of grassland designed for ceremonies and contemplation/reflection, or a generally more open design resembling wood pasture or denser parkland. As it is not yet known what the design of this burial area will be, the more open design was chosen as this appears to be the most common. An allowance has also been made for paths that be present (developed land; sealed surface). Human presence is likely to be relatively limited and also of low intensity given the nature of the activities the area is designed for, therefore it is likely possible to fulfil most of, if not all, of the condition criteria required for good condition. Despite this it is expected that there would be a certain expectation from the general public of what such an area would look visually, that expectation being “tidy” which is something that precludes any woodland from achieving good condition. The same limitation would have the same result with the grassland beyond preventing it from achieving a higher value grassland such as lowland meadow.

Table 20: Summary values for post-development habitat typologies

Habitat typology	Total Area (Ha)	Habitat scenario for creation	Total Biodiversity units	BU/Ha
Allotments	9.2096	Creation	35.5489	3.86
Castle Park	12.8177	Enhancement/Creation	63.8160	4.9787
Country Park	19.5812	Enhancement/Creation	116.4026	5.9446
Existing Habitat	30.0344	Retain	385.1473	12.8137
Lympne Airfield Park	13.0103	Enhancement/Creation	96.5474	7.4209
Misc GI	64.9092	Creation	237.0226	3.6497
Proposed burial ground	2.3364	Creation	14.6668	6.2775
Proposed development area	213.9655	Creation	479.3878	1.9482

Habitat typology	Total Area (Ha)	Habitat scenario for creation	Total Biodiversity units	BU/Ha
Proposed school area	14.4232	Creation	25.0614	1.7376
Proposed sport field	27.7937	Creation	53.6418	1.9300
Proposed woodland	44.1609	Creation	194.8907	4.4132
SUDs	54.4120	Creation	354.6432	6.5177
Wetlands - stormwater	18.6125	Creation/Retain	297.4949	15.9836
Wetlands - wastewater	13.5359	Creation	93.7042	6.9226
Zero value parcels	50.5318	Creation	0	0
<b>Totals</b>	<b>589.33</b>	<b>N/A</b>	<b>2455.82</b>	<b>4.17</b>

3.5.6 A visual representation of Table 20 is also presented as Figure 5.

## 3.6 Hedgerow Removal

3.6.1 Required hedgerow removal (along with other vegetation removal) is presented on Figure 6. As shown on the plan, the exact locations of sections of hedge removal to facilitate the development is not determined, however it is known that the maximum width of each removal for a road will be 25m and a path / cycleway will be 5m (as stated within the Development Specification). As such, the total required removal is known. There are other removals required to facilitate the proposed development, these are measured from Figure 6. Table 21 below presents the removal required. The locations of the hedgerows referred to in the table can be found on Figure 2. It is assumed that all other hedgerows can be retained.

Table 21: Known hedgerow removal as presented on Figure 5

Hedge	Habitat Type	Other	Road	Path	TOTAL
OT02	NSP+D				0
OT05	NSP+T			5	5
OT06	NSR			5	5
OT07	NSR+T		25		25
OT08	NSR+D			5	5
OT13	NSP		25	10	35
OT14	NSP			5	5
OT18	NSP+T		25		25
OT22	NSR+D		25		25
OT22	NSR+D		25		25
OT23	NSP		25	5	30

Otterpool Park  
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Hedge	Habitat Type	Other	Road	Path	TOTAL
OT27	NSR	46			46
OT28	NSR	69			69
OT31	NSP+D		25	5	30
OT34	NSR+D+T		50	5	55
OT35	NSP+T+D		25	5	30
OT49	NSP		50	10	60
OT52	NSP+T	236			236
OT53	NSP+T	99			99
OT54	NSP	142			142
OT56	NSP	130			130
OT58	NSP		25		25
OT61	NSP	142			142
OT62	NSR+D		25		25
OT63	NSR+D+T		25		25

## Hedgerow Creation

3.6.2 As a component of the project, there will be multiple types of hedgerow planted throughout the site. As outlined above, at the current planning stage (Tier 1), it is not possible to outline exactly how many hedgerows will be created across the site or where they will be. However, it is possible to utilise the design parameters for the development to estimate a precautionary quantum of delivery of hedgerow within the development. To inform this assessment, two types of hedgerow are estimated:

- Hedgerows within the green open space and landscape buffers, utilised to subdivide development parcels and within green spaces; and
- Hedgerows within the development parcels, delineating gardens and public spaces within the parcels.

3.6.3 The quantum of hedgerow that will be created within category 1 is estimated utilising the GI strategy (ES Appendix 4.11) information. The estimate for the amount of hedgerow within this category is calculated by measuring the likely minimum length of hedgerow required to achieve the goals of the GI Strategy (ES Appendix 4.11), as stated within the ‘offsets, transitions and interfaces’ requirements (Image 2) and to integrate the roads within the development as outlined in Image 3. This is by nature an estimate but is designed to be precautionary and demonstrates what is likely to be achievable within the development as outlined.

3.6.4 The condition assessment for these hedgerows is targeted to be good. These hedgerows will be within open space and can be managed to provide good habitat value. A demonstration of the targeted good condition is presented in Table 22 and Table 23.

Open Space Typology	Description	Function	Programming	Scale	Benefit
1. Natural or semi-natural open space	Includes: <ul style="list-style-type: none"> <li>• publicly accessible woodlands</li> <li>• urban forestry</li> <li>• scrub</li> <li>• grasslands (e.g. commons, meadows)</li> <li>• wetlands and wastelands.</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental awareness and education</li> <li>• Wildlife conservation and biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Unprogrammed</li> </ul>	<ul style="list-style-type: none"> <li>• Variable</li> </ul>	<ul style="list-style-type: none"> <li>• Habitat creation</li> <li>• Biodiversity</li> <li>• Eco system performance</li> </ul>
2. Offset, transition and interface	Includes offsets to existing and proposed hedgerows and woodlands, structure planting, edges and verges	<ul style="list-style-type: none"> <li>• Screening/softening of built form within wider landscape</li> <li>• Protection of green infrastructure assets</li> <li>• Wildlife conservation and biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Tree planting</li> <li>• Informal recreational space</li> <li>• Shrubs and hedges</li> </ul>	<ul style="list-style-type: none"> <li>• Variable widths 5m-30m</li> </ul>	<ul style="list-style-type: none"> <li>• Provides a degree of privacy</li> <li>• Defensible space impacts mental health and wellbeing</li> </ul>

Image 2: Excerpt from GI Strategy (ES Appendix 4.11) committing to hedgerow planting in buffer areas

Green Infrastructure Typology	Description	Function	Elements	Scale	Benefit
1. Natural or Semi-Natural Open Space	1a. Hedgerow – field boundaries, property boundaries, highway boundaries	Biodiversity, visual screening, historic field pattern, landscape character, wind break	<ul style="list-style-type: none"> <li>• Land ownership boundaries</li> <li>• Edges - paths and corridors</li> </ul>	Local and Neighbourhood	<ul style="list-style-type: none"> <li>• Value to nesting birds</li> <li>• Shelter for woodland birds</li> <li>• Shelter for flora and fauna including vertebrates, badgers, hedgehogs, reptiles and amphibians</li> </ul>
	1b. Woodland/Copse Ancient Woodland/Scattered Tree Planting	Biodiversity, visual screening, landscape character, shelter, shade, wind break, carbon store	<ul style="list-style-type: none"> <li>• Woodland planted areas</li> <li>• Woodland Edge Planting</li> <li>• Specimen Tree Planting</li> </ul>	Neighbourhood and District	<ul style="list-style-type: none"> <li>• Value to nesting birds</li> <li>• Shelter for woodland birds</li> <li>• Shelter for flora and fauna including vertebrates, badgers, hedgehogs, reptiles and amphibians</li> </ul>
	1c. Grassland	Biodiversity, landscape character	<ul style="list-style-type: none"> <li>• Agricultural fallow land</li> <li>• Open grassland</li> <li>• Verges and edges</li> </ul>	Local, Neighbourhood and District	<ul style="list-style-type: none"> <li>• Shelter for flora and fauna including vertebrates, badgers, hedgehogs, reptiles and amphibians</li> <li>• Pollinator provision</li> </ul>

Image 3: Excerpt from GI Strategy (ES Appendix 4.11) demonstrating commitment to hedge planting along road corridors

Table 22: Estimation of likely condition for hedgerows within the open space

Condition Criteria	Aspect	Requirement	Description	Does the Native Species Rich
A1.	Height	>1.5 m average along length	<p>The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is &gt; 1.5 m height).</p>	Yes
A2.	Width	>1.5 m average along length	<p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (e.g., blackthorn suckers) are only included in the width estimate when they &gt;0.5 m in height.</p> <p>Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice<sup>4</sup>).</p>	Yes
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	<p>This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.</p> <p>Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).</p>	Yes
B2.	Gap - hedge canopy continuity	<ul style="list-style-type: none"> <li>· Gaps make up &lt;10% of total length and</li> <li>· No canopy gaps &gt;5 m</li> </ul>	<p>This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</p> <p>Access points and gates contribute to the overall gappiness but are not subject to the &gt;5 m criterion (as this is the typical size of a gate).</p>	Yes

Condition Criteria	Aspect	Requirement	Description	Does the Native Species Rich
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).  Access points and gates contribute to the overall gappiness but are not subject to the >5 m criterion (as this is the typical size of a gate).	Yes
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles ( <i>Urtica</i> spp.), cleavers ( <i>Galium aparine</i> ) and docks ( <i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Yes
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	Yes
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.  This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedge cutting).	No

Table 23: Condition criteria for attributing a condition to hedgerows

Condition categories for hedgerows without trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Good	No more than 2 failures in total; AND No more than 1 in any functional group.	3
Moderate	No more than 4 failures in total; AND Does not fail both attributes in more than one functional group (e.g., fails attributes A1, A2, B1 & C2 = Moderate condition).	2



Condition categories for hedgerows without trees		
Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)
Poor	Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group (e.g., fails attributes A1, A2, B1 & B2 = Poor condition).	1

- 3.6.5 The second typology is the hedgerow within the development parcels. As shown in Image 6, hedgerows as perimeters are specified within the GI strategy (ES Appendix 4.11) within open spaces and the development parcels. In order to assess a minimum hedgerow provision, an example residential development was utilised to estimate hedgerow provision. This development in Oxfordshire is a residential parcel, comparable in scale to the likely individual parcels within the Otterpool development. However, unlike the Otterpool Park development, this development has no definite commitment to deliver hedgerow, as such this demonstrates a likely minimum hedgerow provision within an Otterpool development parcel. The development analysed is Land to The West Of Mill Lane Marston Oxford Oxfordshire OX3 0QA - application 21/01217/FUL, a residential development of 80 units. An excerpt of the landscape documents is presented as Image 4. Within this example development, for each unit, 3.575 m of native hedgerow (species poor) is proposed (286m for 80 units). As such, utilising this as a worse case example, Otterpool has the potential to deliver approximately 30km of native species poor hedgerow within the development parcels (8500 units X 3.575m = 30.3875km hedge. It is this number that is utilised in the estimates within this assessment.
- 3.6.6 For the condition of the hedgerows within the development parcels, to account for the limitations inherent to hedgerows within development parcels, a condition of moderate is utilised. The calculation of this estimation is presented in Table 24. An explanation of the scoring is presented in Table 23.

Table 24: Estimation of likely condition for hedgerows within the development parcels

Condition Criteria	Aspect	Requirement	Description	Does the proposed hedgerow meet this requirement?
A1.	Height	>1.5 m average along length	<p>The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is &gt; 1.5 m height).</p>	Yes
A2.	Width	>1.5 m average along length	<p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (e.g., blackthorn suckers) are only included in the width estimate when they &gt;0.5 m in height.</p> <p>Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice<sup>4</sup>).</p>	No
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	<p>This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.</p> <p>Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).</p>	Yes
B2.	Gap - hedge canopy continuity	<ul style="list-style-type: none"> <li>· Gaps make up &lt;10% of total length and</li> <li>· No canopy gaps &gt;5 m</li> </ul>	<p>This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</p> <p>Access points and gates contribute to the overall gappiness but are not subject to the &gt;5 m criterion (as this is the typical size of a gate).</p>	No

Condition Criteria	Aspect	Requirement	Description	Does the proposed hedgerow meet this requirement?
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).  Access points and gates contribute to the overall gappiness but are not subject to the >5 m criterion (as this is the typical size of a gate).	Yes
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles ( <i>Urtica</i> spp.), cleavers ( <i>Galium aparine</i> ) and docks ( <i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	No
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	Yes
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.  This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedge cutting).	Yes

Otterpool Park  
 Environmental Statement Appendix 7.21: Biodiversity Net Gain



Image 4: 21/01217/FUL Landscape Strategy Sheet 1



Image 5: 21/01217/FUL Landscape Strategy Sheet 2

**Access**

- No more than 20 minutes' walk from all homes
- Hedgerow perimeters take preference to fences
- All publicly accessible green spaces should be accessible to all, accommodating people with disability through innovative design and benefiting from active and passive surveillance

Image 6: Commitment to hedgerow planting in the Key Design Principles (derived from the Green Infrastructure Strategy, ES Appendix 4.11)

### 3.7 Post-construction Hedgerow Value

- 3.7.1 There are approximately 12.5 km of hedgerows in the baseline state on site. As a component of the development (as illustrated in the illustrative masterplan and secured within the parameter plans, ES Appendix 4.2), it is assessed that 1.3km of hedgerow will require removal.
- 3.7.2 Within the construction, extensive hedgerow planting is proposed. A precautionary estimate of the likely hedgerow planting which will be included is made (as this is yet to be fixed) based on an approved residential development (which provides a minimum likely hedgerow provision). This estimates that 31.8km of hedgerow (as a minimum) would be planted within the development. It is assumed that the Native Species rich hedgerow that will be planted will be 'Good' condition and the Native Hedgerow will be of 'Moderate' condition.
- 3.7.3 Based on these assumptions, this BNG assessment concludes that the development as secured within the parameter plans (ES Appendix 4.2) and as outlined in the Illustrative masterplan 9ES Appendix 4.5) has the potential to deliver 232.75 hedgerow units in the post construction state (from 131.65 units in the baseline state), a total uplift of 76.82%.

## 3.8 Post-construction River Conditions and Valuation

3.8.1 The proposals include the improvement of the river corridor as part of the development. The proposal includes the following interventions:

- the corridor will be buffered by at least 15m, resulting in more natural riparian habitat, when compared to the often arable dominated habitats currently present in this area.
- Extensive wetland habitats will be created along the river as part of sustainable drainage features. These will include swales, basins, ponds and wetlands (the locations of proposed wetland features are shown in Figure 7 in Chapter 15 Appendix 2).
- Three crossings over the river are proposed, all of which will be clear span structures. Some of the culverts currently present will also be removed as part of the development.

3.8.2 The complete river calculation is presented as Appendix I.

### River typology

3.8.3 The river typology is assessed in the same manner as the baseline, i.e., as being ‘other rivers and streams’.

### River condition

3.8.4 The predicted condition assessment of the reaches is presented in Table 25. The predicted condition indicator scores are presented in Appendix H.

Table 25: Post-development condition assessments

Reach	Condition
East stour reach 1	Fairly good
East stour reach 2	Fairly good
East stour reach 3	Fairly good
East stour tributary reach 1	Fairly good

### Strategic significance

3.8.5 The strategic significance of the watercourses is assessed in the same manner as the baseline, i.e., of strategic significance (marked as within local plans).

### Encroachment

3.8.6 Due to the buffering of the watercourse by at least 15m along its length, in the current proposals, there is not expected to be significant encroachment into the riparian zone or the channel itself.

### Habitat improvement timeframe

3.8.7 It is assumed at this stage that the interventions are not carried out ahead of time, nor is there a delay, relative to the start of the construction process. However, at later stages, when a more detailed construction timeline is available, the calculations will be adjusted to account for any such delays or pre-construction works.

## Post-development unit total

3.8.8 As presented in Table 26, the post-development biodiversity unit value of the river habitats is predicted to be 85.19 river units.

Table 26: Post-development river unit totals

River reach	Length (km)	Units
East stour reach 1	1.44	22.97
East stour reach 2	1.28	20.42
East stour reach 3	0.9	14.36
East stour tributary reach 1	1.72	27.44
<b>Total</b>	<b>5.34</b>	<b>85.19</b>

## Biodiversity unit change

3.8.9 There is a potential increase in river units from 73.69 to 85.19. This represents an 11.49 unit and 15.60% increase in river units.

## 3.9 Changes in Broad Habitat Types

3.9.1 The proposed Development has the potential to result in changes to the amount and quality of the habitats on the site. The UK habitat classification system used within the metric contains a tiered system, grouping similar habitats into “Broad habitats” and more specific “Habitat types”. For example, “Grassland” is a “Broad habitat”, that can contain “Other lowland acid grassland” and “Other neutral grassland”, among others. The area and biodiversity unit changes in these broad habitat types for the proposal are shown in Table 29.

3.9.2 The changes to the areas of the broad habitats present within the site include a decrease in the area of Cropland, Grassland, and Sparsely Vegetated Land habitats, and an increase in the area of Heathland and Shrub, Lakes, Urban, Wetlands, and Woodland and Forest habitats. This is primarily driven by the replacement of the arable cropland (cereal crops) and pasture grassland (modified grassland) that dominates the site with the proposed development areas and the proposed ecological enhancements.

3.9.3 The changes to the biodiversity unit values of the broad habitats present within the site include a complete loss of Cropland and Sparsely Vegetated Land habitats and a minor decrease in the value of Grassland habitats, and a significant increase in the value of Heathland and Shrub, Lakes, Urban, Wetland, and Woodland and Forest habitats. The complete loss of Cropland and Sparsely Vegetated Land habitats results from the replacement of the undesirable ruderal parcels and cereal crops that dominates the site alongside pasture grassland with the proposed Development and proposed ecological enhancements. Given the low value of these parcels, these complete losses can be considered to be sufficiently mitigated as all of the proposed habitats are either of equal low distinctiveness or a higher distinctiveness. Additionally, while there is a loss of grassland, this can also be considered sufficiently mitigated. Over 90% of the grassland present within the baseline is low value modified grassland pasture however in the post-intervention scenario this type of grassland only comprises 33% of the grassland present on the site with the remainder being higher value other neutral grassland or lowland meadow. Therefore,



while there has been a decrease in the overall value of grassland, the coverage on the site of much higher value grassland and other habitats of equal or greater value, has significantly increased.

Table 27: The changes in the total areas in hectares of the broad habitat types

Broad habitat type	Baseline	Post-intervention	Change in area (ha)
Cropland	306.9778	0	-306.9778
Grassland	237.7390	178.7687	-58.9703
Heathland and shrub	3.3436	24.2544	20.9108
Lakes	2.7367	14.7261	11.9894
Sparsely vegetated land	3.8740	0	-3.8740
Urban	29.5176	306.8063	277.2887
Wetlands	0.0000	6.5107	6.5107
Woodland and forest	16.1896	80.3205	64.1310

Table 28: The changes in the total biodiversity unit values of the broad habitat types

Broad habitat type	Baseline	Post-intervention	Change in biodiversity units	% Change in biodiversity units
Cropland	613.9555	0	-613.9555	-100%
Grassland	996.4932	1000.1188	3.6257	0.36%
Heathland and shrub	16.3369	162.3742	146.0373	893.91%
Lakes	47.2614	186.4096	139.1482	294.42%
Sparsely vegetated land	14.4158	0	-14.4158	-100
Urban	132.7050	420.5658	287.8608	216.92%
Wetlands	0.0000	51.2035	51.2035	N/A
Woodland and forest	199.8859	502.4422	302.5564	151.36%

## 3.10 Summary Results

### Area-based habitats

3.10.1 The summary results of the assessments for the outline proposal, using the Biodiversity metric 3.0 calculator are presented in Image 7.

On-site baseline	Habitat units	2021.05
	Hedgerow units	0.00
	River units	0.00
On-site post-intervention (including habitat retention, creation & enhancement)	Habitat units	2455.82
	Hedgerow units	0.00
	River units	0.00
On-site net % change (including habitat retention, creation & enhancement)	Habitat units	21.51%
	Hedgerow units	0.00%
	River units	0.00%
Off-site baseline	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (including habitat retention, creation & enhancement)	Habitat units	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	434.77
	Hedgerow units	0.00
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	21.51%
	Hedgerow units	0.00%
	River units	0.00%

Image 7: Areas based habitat unit delivery

3.10.2 Under the current outline proposal, the Otterpool Park has the potential to result in an increase in biodiversity units of 434.77, representing a net gain of 21.51%.

3.10.3 The changes in the area and biodiversity units of each broad habitat type for that could result from the outline proposal are shown in Table 29.

3.10.4 The overall increase in biodiversity units is driven by the extensive ecological enhancements and green infrastructure that covers over 50% of the site. A significant portion of the units generated also comes from the recognised value that residential developments can provide for the local ecosystem if they are designed sensitively with the inclusion of natural features such as native trees and shrubs within public amenity space and private gardens, and semi-artificial features such as green roofs and rain gardens. The assumed composition of any one parcel can be found by cross-referencing the parcel ID number labels in the GI strategy (Figure 4) against the relevant entry in the Post Development Land Use Typology Breakdown spreadsheet (Appendix D).

3.10.5 Some of the features that are targeted to be included within the habitat include:

- Ponds created for biodiversity: these will be designed to meet the prescriptions of the relevant 'habitat of principal importance' description. Areas where ponds are to be created include the buffer around Harringe Brooks Wood, adjacent to the East Stour River and in the 'Wildlife Area' in the northwest of the site.

- Areas of woodland planting: these areas are to be planted to screen the Otterpool park development and to create connectivity. This includes planting linking Harringe Brooks Wood to the river corridor to the north.
- SuDS features including ponds, drainage ditches, swales and rain gardens (these will not primarily be 'for biodiversity' but will have biodiversity value);
- Areas of ditch to be created for water voles;
- Hedgerows will be planted across the development. These will be native species hedges and will be planted to subdivide parcels within the development, but also to provide a permeable barrier for wildlife between properties and GI. These features will provide a notable habitat for a range of species.
- Areas of species rich wildflower grassland will be created across the site. The habitat composition / seed and planting mix should be based upon the soil present but would largely be based upon the descriptions of priority habitat (lowland meadow).
- Scattered trees are to be planted through the GI of the development. The species of these will be designed to safeguard against disease and climate change but will be native where appropriate.
- Areas of scrub will be created/allowed to develop, which will have value for invertebrates and provide a heterogeneous habitat for reptiles.
- Microhabitat features will also be created for a range of receptors, including earth banks and deadwood piles for invertebrates.

3.10.6 The increase is also driven by design principles that follow the mitigation hierarchy such that the highest value habitats are expected to be retained.

Table 29: Changes in area and biodiversity units of broad habitat types

Broad habitat type	Change in area (ha)	Change in biodiversity units	% Change in biodiversity units
Cropland	-306.9778	-613.9555	-100.00%
Grassland	-58.9703	3.6257	0.36%
Heathland and shrub	20.9108	146.0373	893.91%
Lakes	11.9894	139.1482	294.42%
Sparsely vegetated land	-3.8740	-14.4158	-100.00%
Urban	277.2887	287.8608	216.92%
Wetlands	6.5107	51.2035	N/A
Woodland and forest	64.1310	302.5564	151.36%

## Hedgerows

3.10.7 The development also has the potential to deliver an uplift in the BU attributable to hedgerows from 131.65 BU to 232.78 BU, or an approximate 75% increase. This uplift is presented in Image 8. This is driven by the retention of hedgerows, inclusion of new hedgerows to subdivide the site and within the built development parcels.

On-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	131.65
	<i>River units</i>	0.00
On-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	232.78
	<i>River units</i>	0.00
On-site net % change <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	76.82%
	<i>River units</i>	0.00%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	101.13
	<i>River units</i>	0.00
Total on-site net % change plus off-site surplus <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	76.82%
	<i>River units</i>	0.00%
Trading rules Satisfied?	Yes	

Image 8: Delivery of hedgerow units

## River habitats

3.10.8 Under current proposals there is potential to deliver an increase in river units from 73.69 to 85.19. This represents an 11.49 and 15.60% increase in river units. This uplift is presented in Image 9. This is largely driven by the buffering of the watercourses on site, leading to a more natural riparian and bank-face area than is currently present in the largely agricultural landscape.

On-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	73.69
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	85.19
On-site net % change (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	15.60%
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	11.49
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	15.60%
Trading rules Satisfied?	Yes	

Image 9: Delivery of river units

## 4 Conclusion

- 4.1.1 This report outlines the biodiversity units of the habitats on site before and the potential units after the proposed development, as defined using the Biodiversity Metric (BM 3.0, issued by Defra and Natural England). In line with the Environment Act (2021), 25 Year Plan for the Environment (HM Government, 2018) and the National Planning Policy Framework (MHCLG, 2019), new development should identify and pursue opportunities for securing measurable net gains for biodiversity and for the wider environment.
- 4.1.2 The baseline was assessed using data collected for a Preliminary Ecological Appraisal and subsequent updates and condition assessments. The post-development scenario is based on the outline landscape plan and illustrative masterplan in the GI Strategy (ES Appendix 4.11). The proposal has the potential to result in a net gain of 21.51%; a significant net gain for biodiversity that is well above the 10% mandated within the recently passed Environment Act (2021).
- 4.1.3 On top of a gain evidenced by BM 3.0, the proposal has the potential to increase the coverage of habitats in decline both locally and nationally on previously barren farmland while still able to provide 8500 new residences. It would also play a part in increasing the connectivity between remnant pockets of ancient woodland in the local area. The assessment also identified the potential for 15.6% uplift in river units. The improvements will benefit the watercourse themselves, as well as providing downstream benefits, for example through buffering run-off from adjacent land. The development also has the potential to deliver an uplift in the BU attributable to hedgerows from 131.65 BU to 232.78 BU, or an approximate 75% increase.
- 4.1.4 As previously stated, this assessment in an indicative scenario that was carried out on an outline proposal for the development, it is not necessarily the way the development will come forward. All the outline parameters of the Development were used, and this report demonstrates that an approximately 20% net gain for biodiversity can be achieved under these parameters. However, these parameters may be applied in a different way to design the masterplan and as such, at the later tiers of the planning process, this document will need to be updated and refined.
- 4.1.5 Update surveys of the baseline status should be carried out and the assessment of the landscape proposals should be further assessed throughout the planning process to ensure the baseline and post-intervention scenarios are assessed as accurately as possible.

## 5 Summary

- 5.1.1 Arcadis Consulting (UK) Limited has been commissioned on behalf of Otterpool Park LLP to undertake a Biodiversity Net Gain assessment to inform an Environmental Impact Assessment (EIA) for the proposed Development to accompany an amendment to the outline planning application. The proposed Development is 'Otterpool Park', a garden settlement located within Folkestone, Kent.
- 5.1.2 This report outlines the biodiversity units of the habitats on site before and the potential units after the proposed development, as defined using the Biodiversity Metric (BM 3.0, issued by Defra and Natural England). In line with the 25 Year Plan for the Environment (HM Government, 2018) and the National Planning Policy Framework (MHCLG, 2019), new development should identify and pursue opportunities for securing measurable net gains for biodiversity and for the wider environment.
- 5.1.3 The baseline was assessed using data collected on the Preliminary Ecological Appraisal and subsequent updates and the post-development scenario is based on the outline landscape plan and GI Strategy (ES Appendix 4.11). The proposal has the potential to result in a net gain of 21.51%; a significant net gain for biodiversity. The assessment also identified the potential for 15.6% uplift in river units and 75% increase in hedgerows.
- 5.1.4 As the development moves through the stages of the planning process, the landscape design should be refined with input from a suitably qualified ecologist to ensure that each iteration continues to provide at least the net gain in biodiversity outlined in this document, if not more.

## 6 References

### Reference Description

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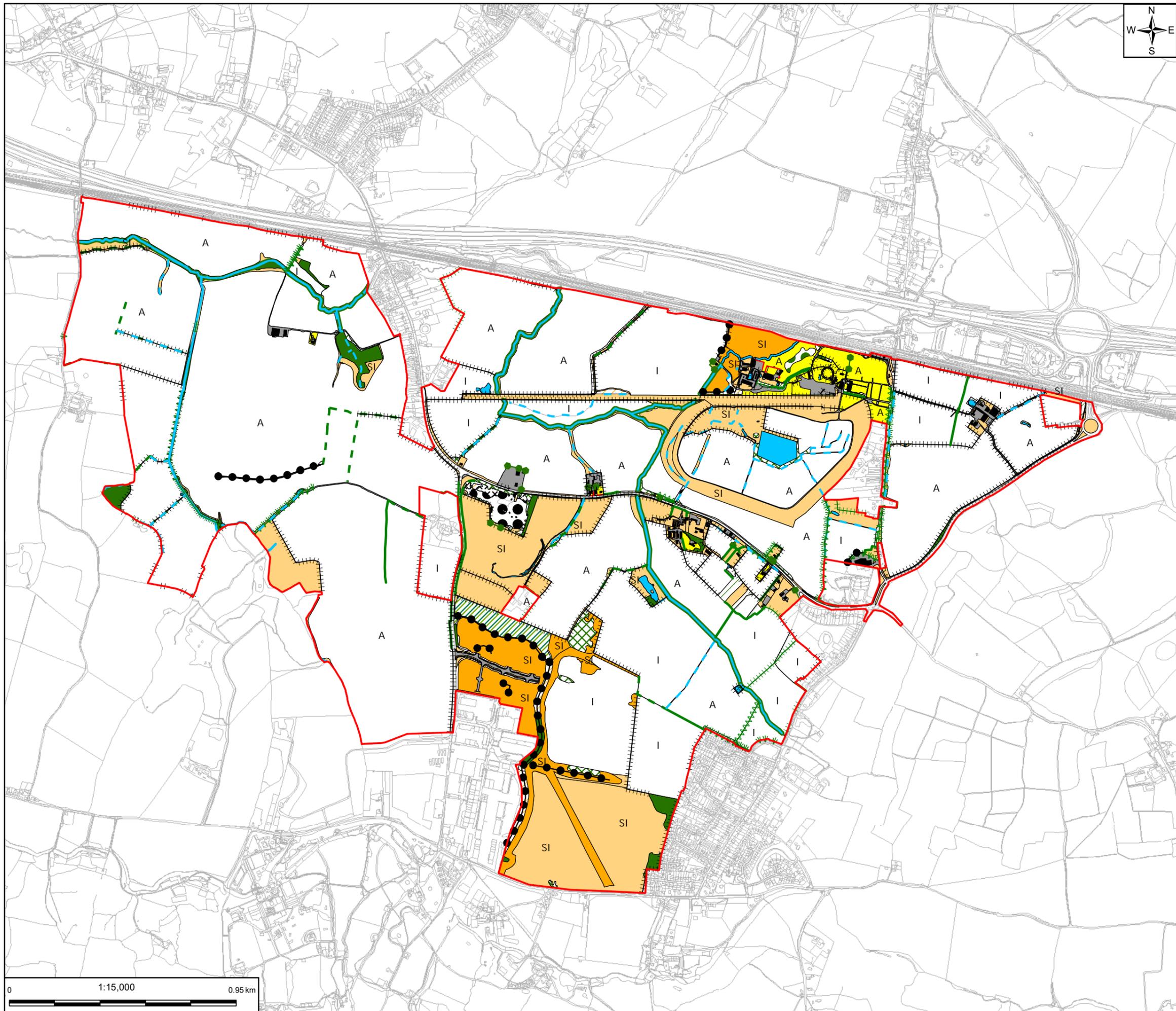
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**Figure 1: Site habitat baseline with polygon numbers used in the assessments.**



**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
- Native species-rich intact hedge
- Species poor intact hedge
- Species poor defunct hedge
- Native species-rich hedge with trees
- Species poor hedge with trees
- Fence
- Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
- Broad-leaved parkland scattered trees
- Mixed plantation woodland
- Plantation woodland
- Dense/continuous scrub
- Ephemeral / short-perennial
- Introduced shrub
- Tall ruderal
- Amenity grassland
- Arable
- Semi-improved neutral grassland
- Species poor semi-improved grassland
- Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

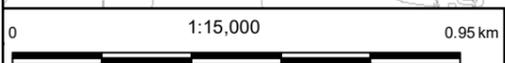
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 80 Fenchurch Street  
 London  
 EC3M 4BY

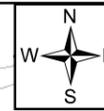
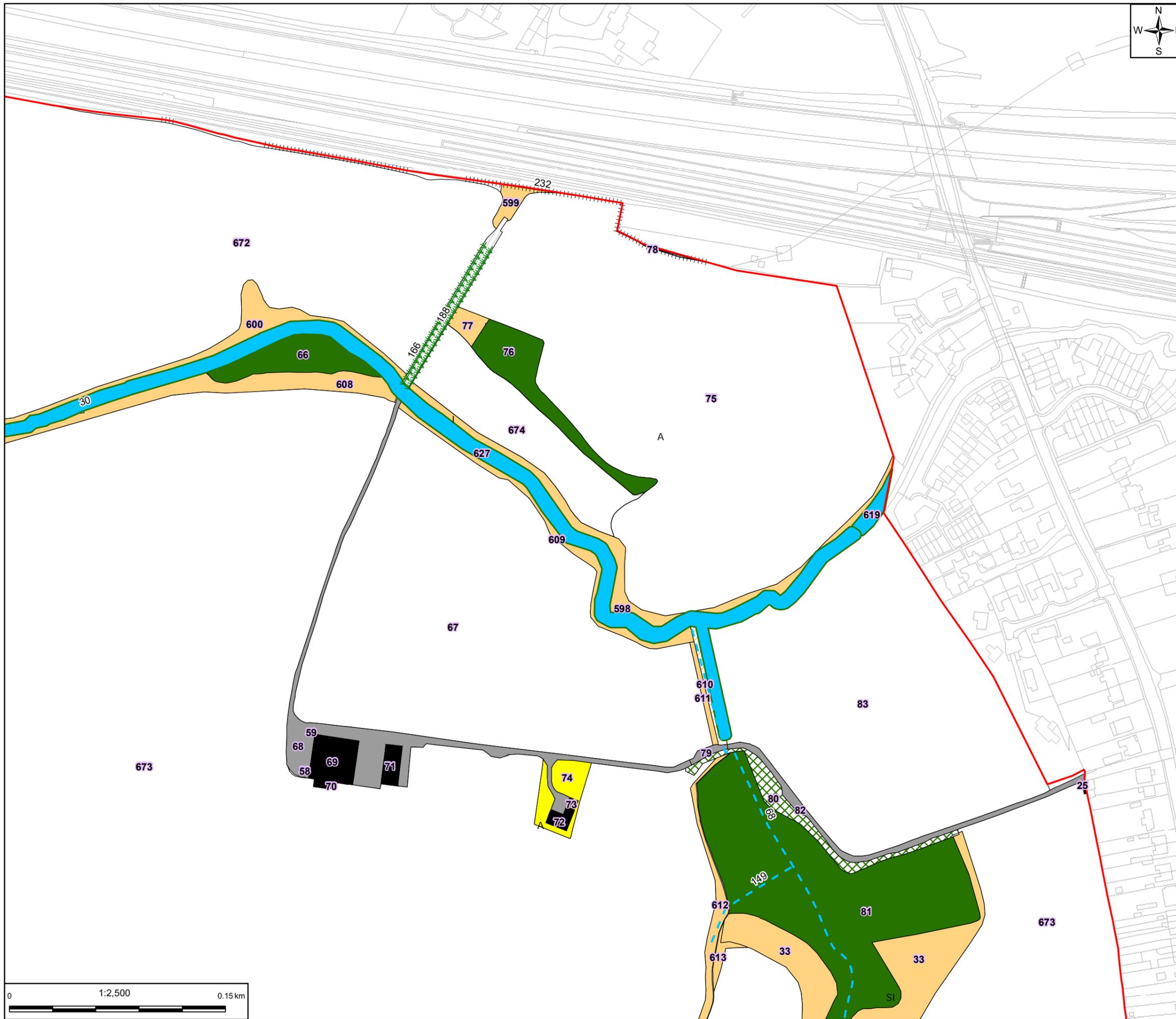
**OTTERPOOL PARK**  
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**Figure 1 Baseline Habitats**  
 Page 1 of 20



scale	original size	datum	grid
1:15,000	A3	Sx	BNG





- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
  - Native species-rich intact hedge
  - Species poor intact hedge
  - Species poor defunct hedge
  - Native species-rich hedge with trees
  - Species poor hedge with trees
  - Fence
  - Ditch
  - Running water
  - Wall
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  - Broad-leaved parkland scattered trees
  - Mixed plantation woodland
  - Plantation woodland
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  - Introduced shrub
  - Tall ruderal
  - A Amenity grassland
  - A Arable
  - SI Semi-improved neutral grassland
  - SI Species poor semi-improved grassland
  - I Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

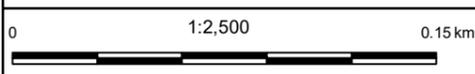
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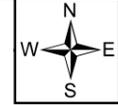
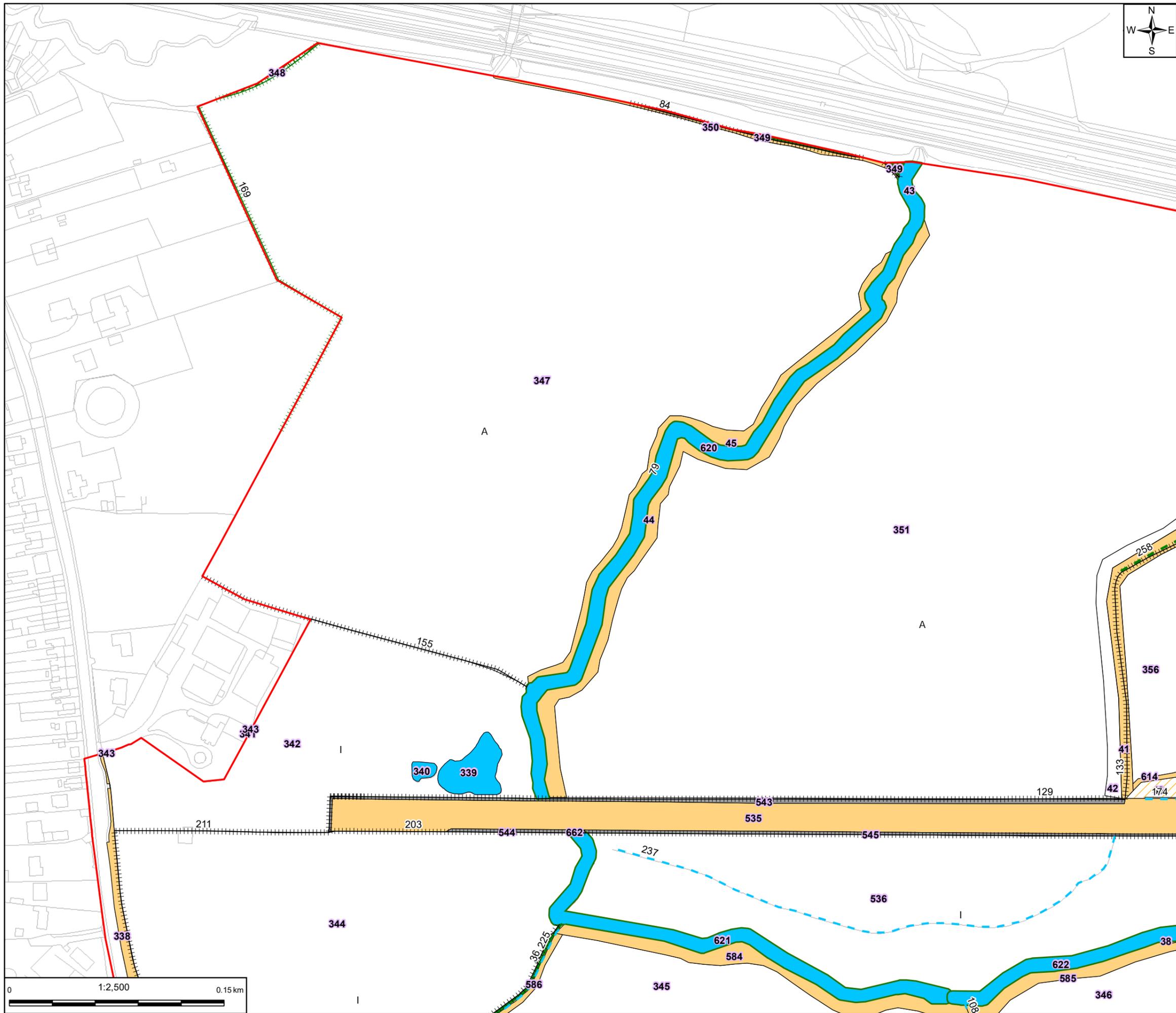
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 80 Fenchurch Street  
 London  
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**OTTERPOOL PARK**  
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**Figure 1 Baseline Habitats**  
 Page 3 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



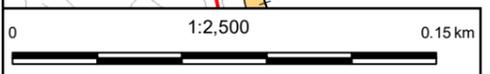
- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
  - Native species-rich intact hedge
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  - Species poor defunct hedge
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  - Species poor semi-improved grassland
  - Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

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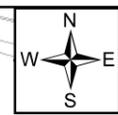
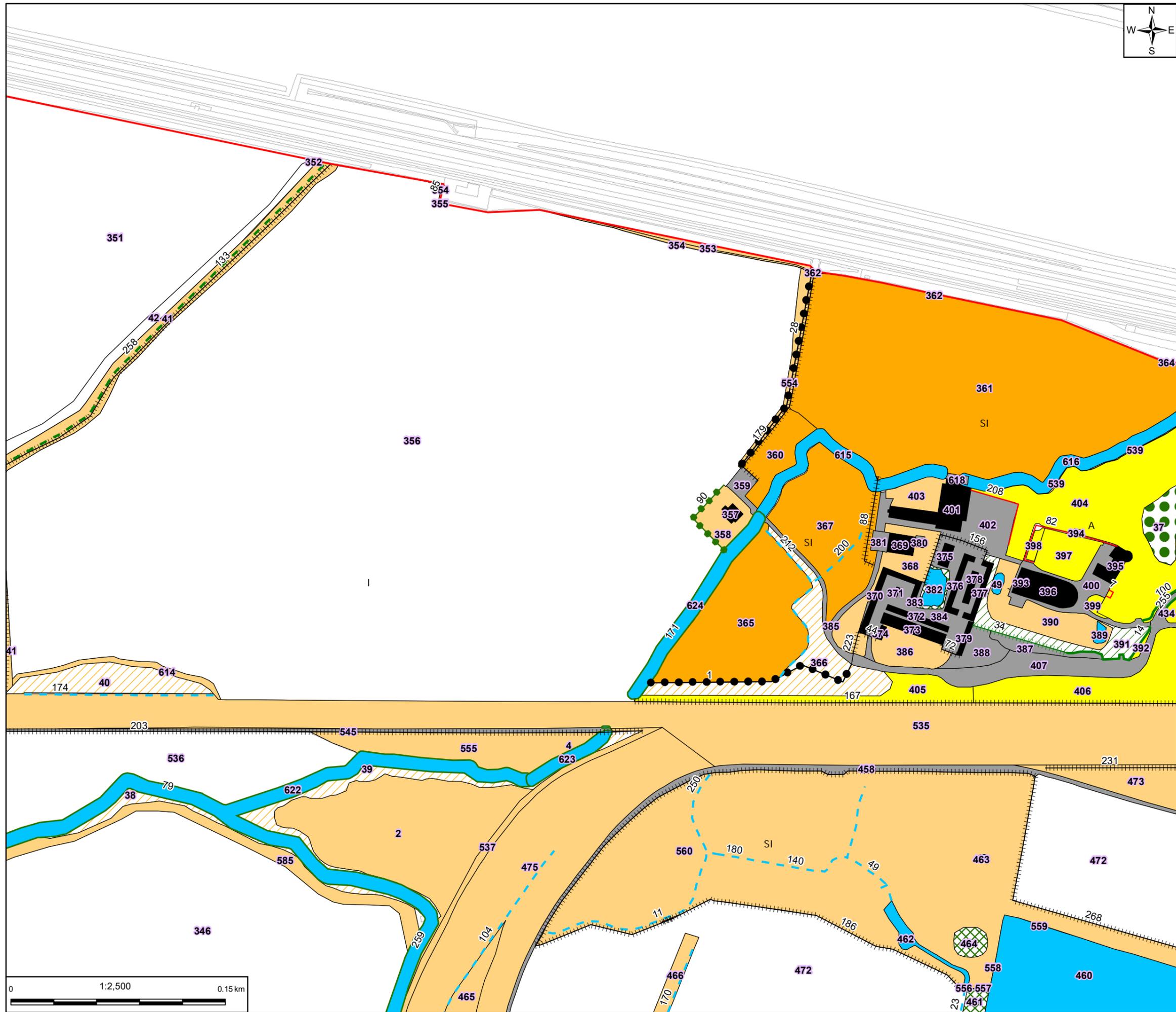
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01	04/03/22	FOR INFORMATION	PN	BM	MG



**Figure 1 Baseline Habitats**  
Page 4 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
  - Native species-rich intact hedge
  - Species poor intact hedge
  - Species poor defunct hedge
  - Native species-rich hedge with trees
  - Species poor hedge with trees
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  - Ditch
  - Running water
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  - Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

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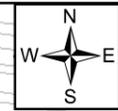
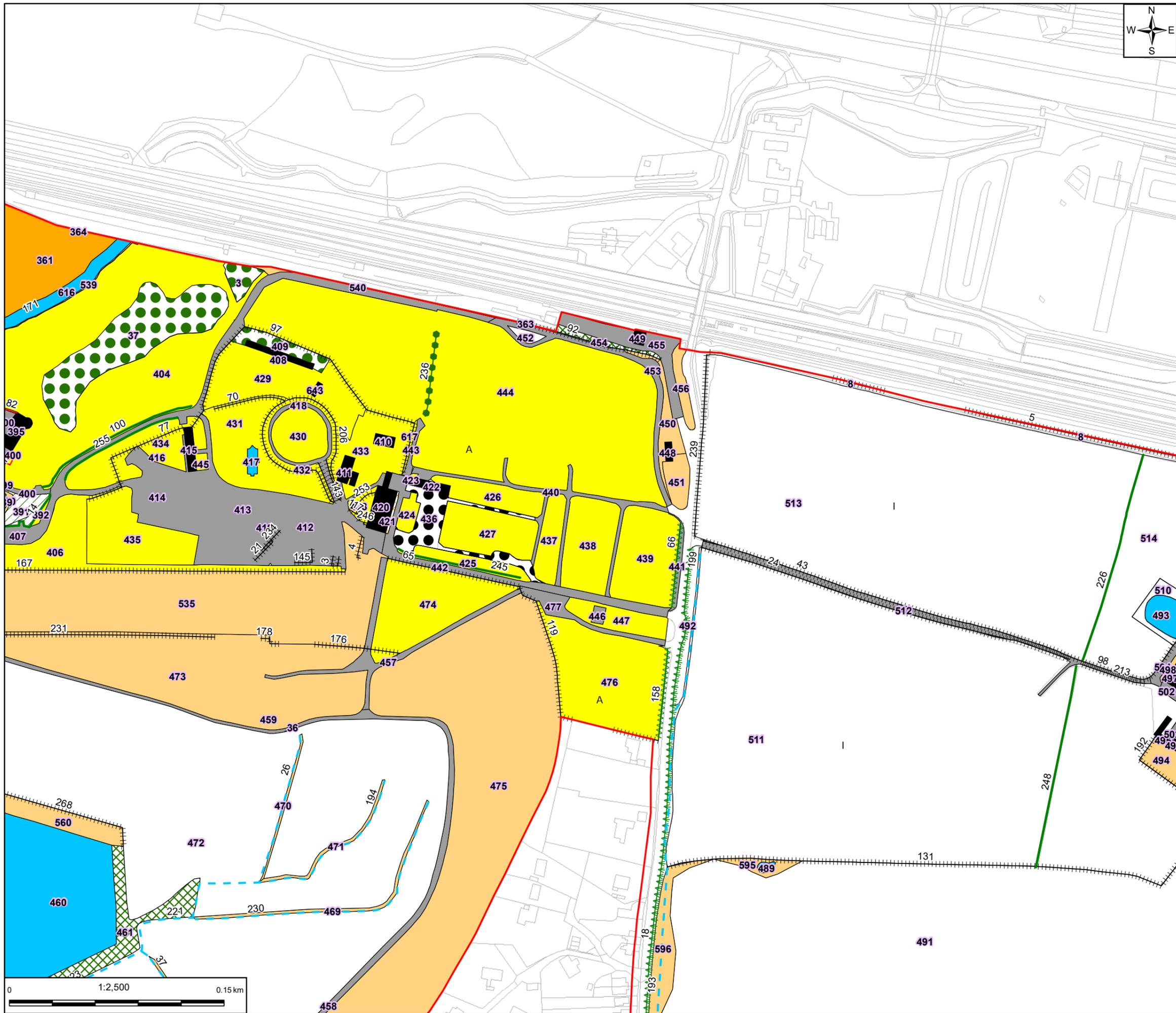
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**Figure 1 Baseline Habitats**  
 Page 5 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
  - Native species-rich intact hedge
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  - Native species-rich hedge with trees
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  - A Arable
  - SI Semi-improved neutral grassland
  - SI Species poor semi-improved grassland
  - I Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

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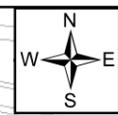
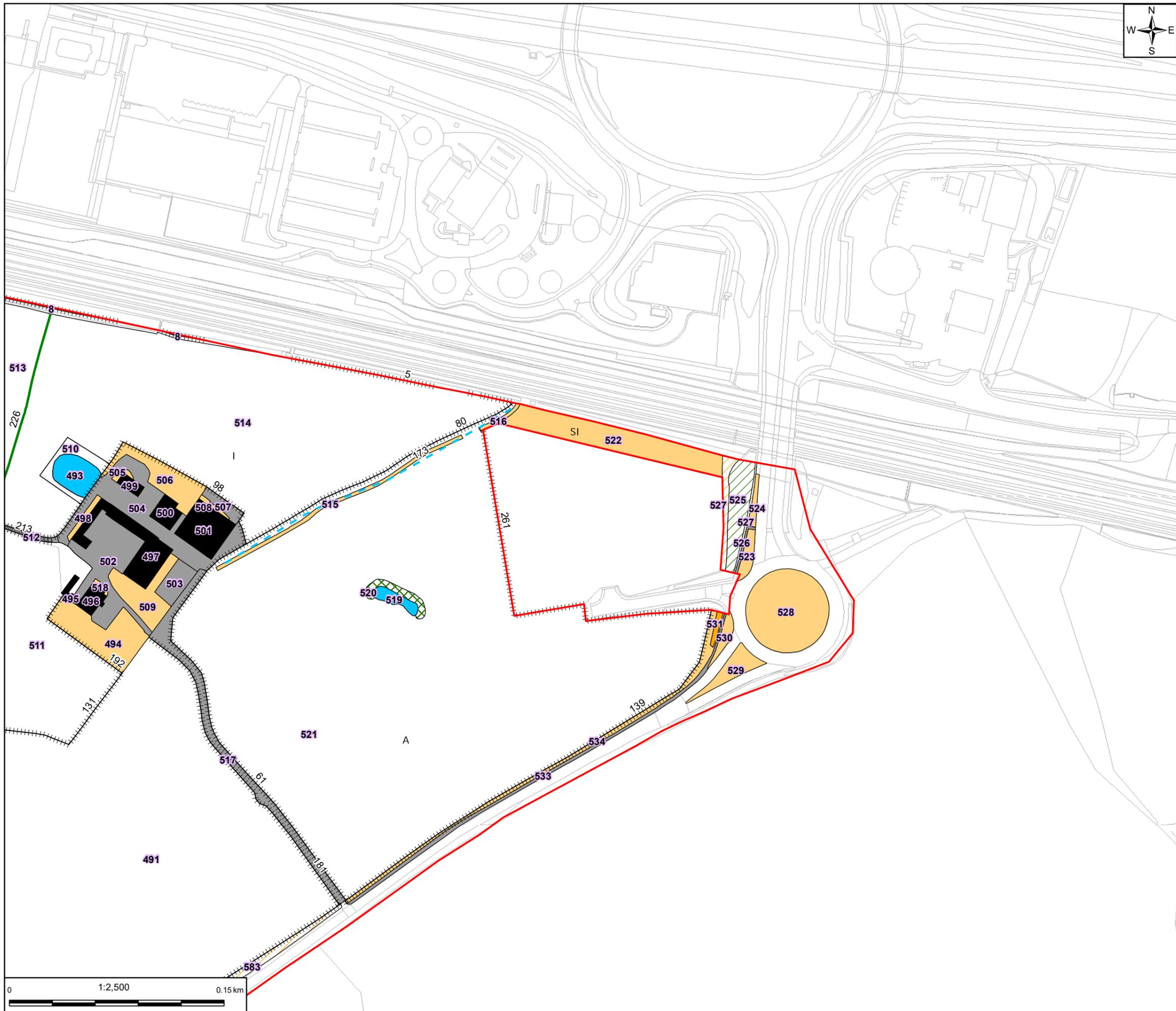
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**Figure 1 Baseline Habitats**  
 Page 6 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
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  - Plantation woodland
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  - Species poor semi-improved grassland
  - Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

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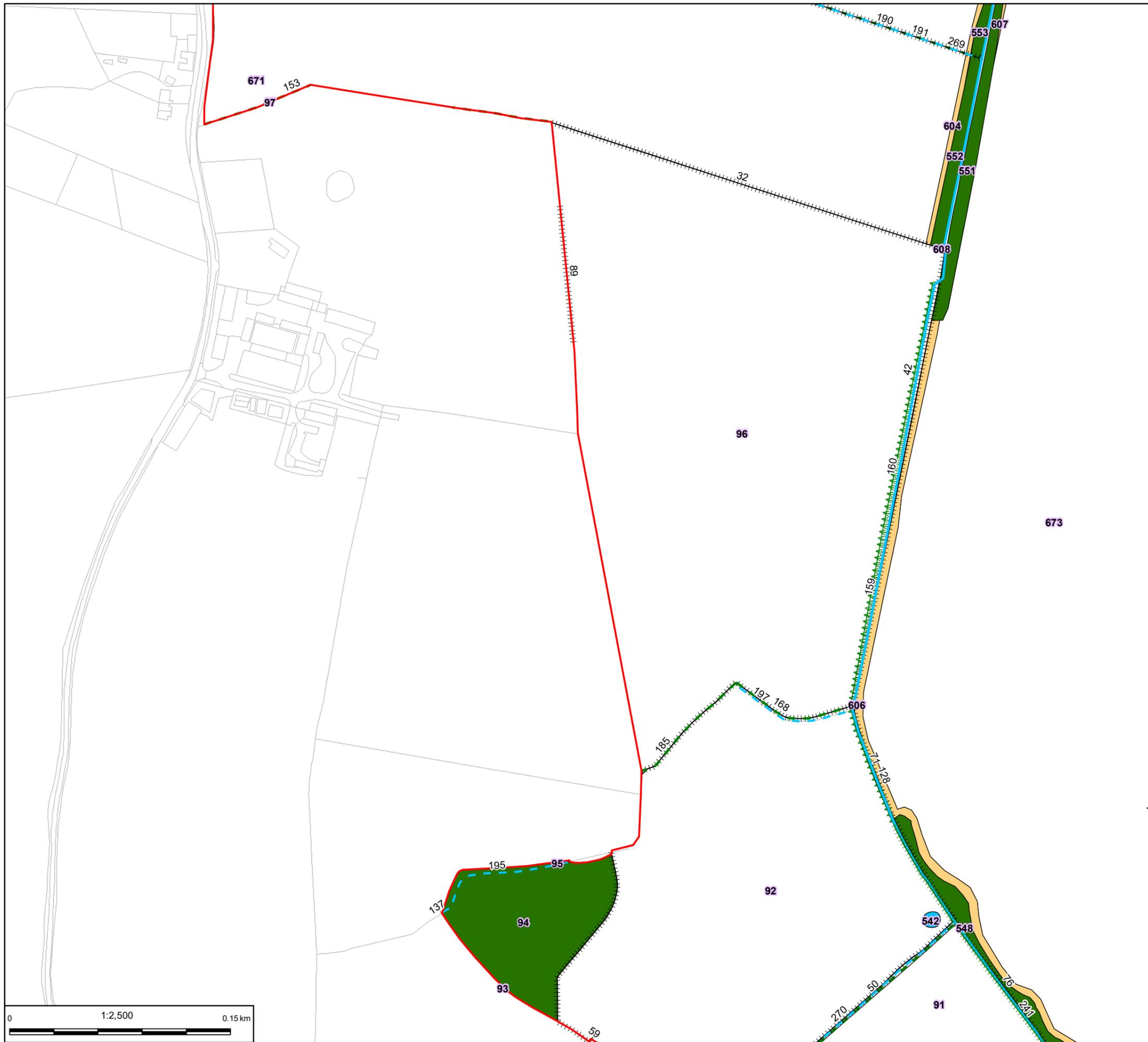
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**Figure 1 Baseline Habitats**  
 Page 7 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG





**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
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- SI Species poor semi-improved grassland
- I Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

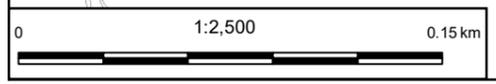
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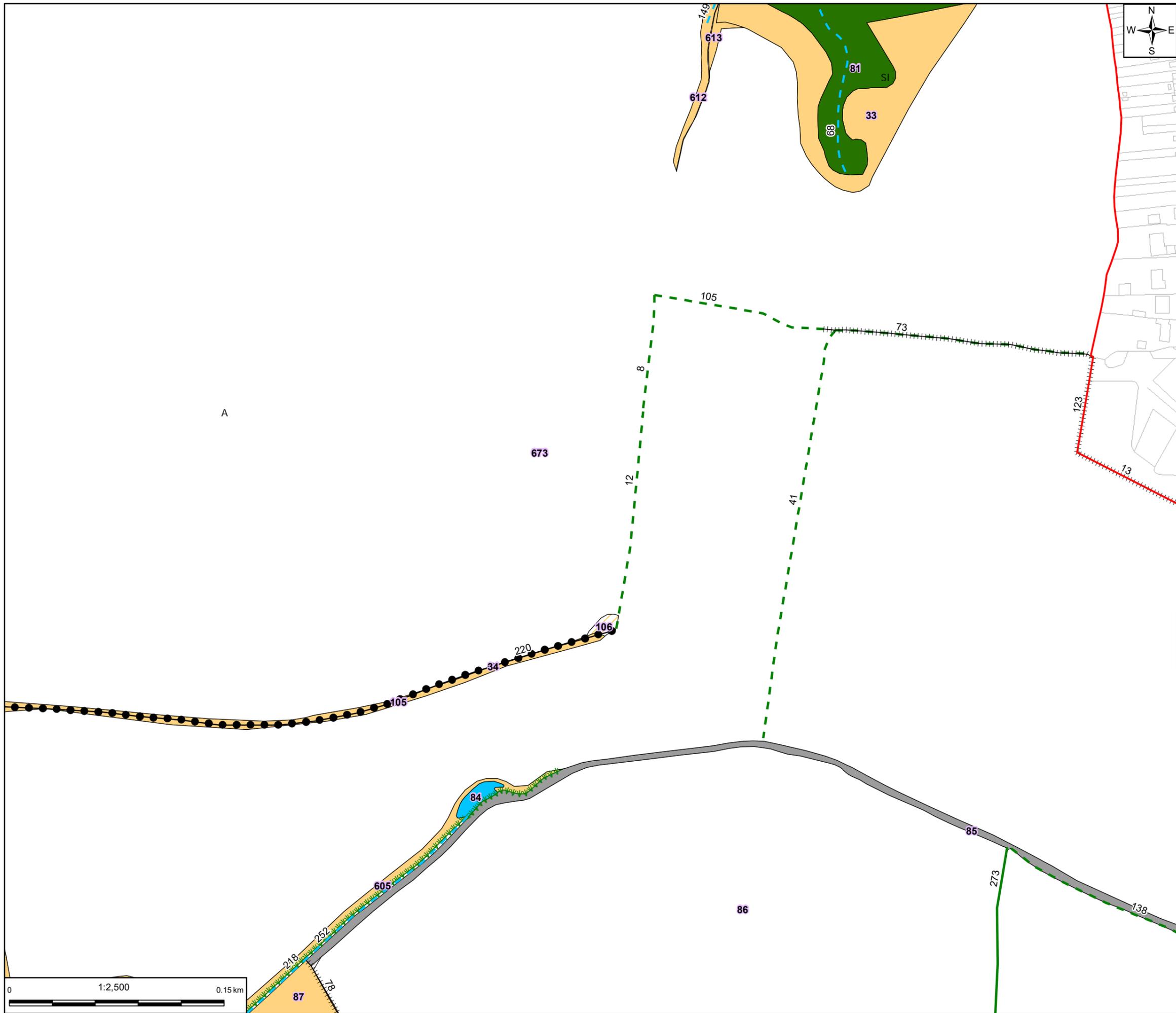
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01	04/03/22	FOR INFORMATION	PN	BM	MG

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**Figure 1 Baseline Habitats**  
Page 8 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG





**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
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- SI Species poor semi-improved grassland
- I Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

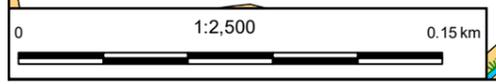
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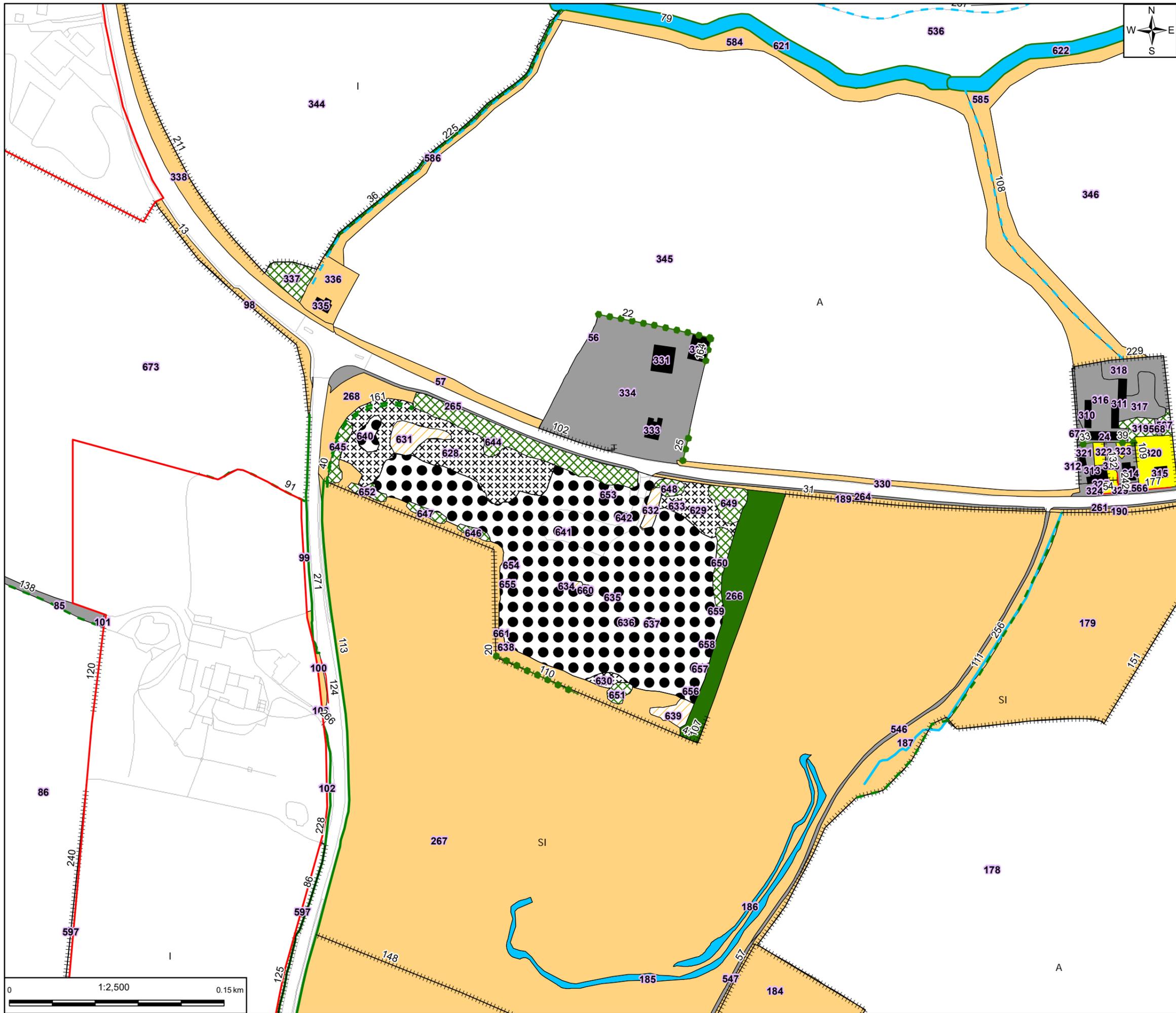
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**Figure 1 Baseline Habitats**  
 Page 9 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
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- A Arable
- SI Semi-improved neutral grassland
- SI Species poor semi-improved grassland
- I Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

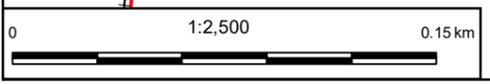
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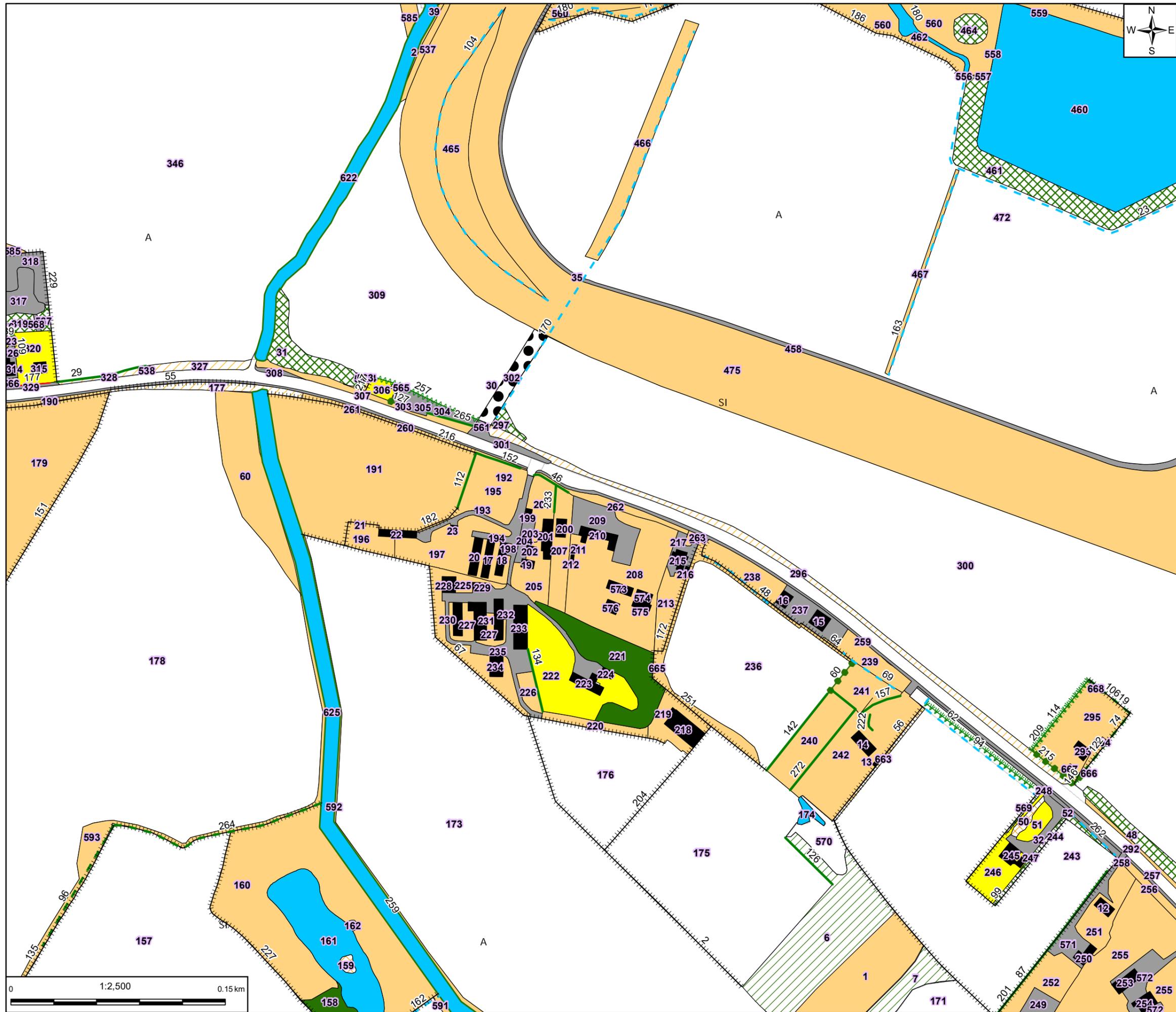
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**Figure 1 Baseline Habitats**  
 Page 10 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
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- Arable
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- Species poor semi-improved grassland
- Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

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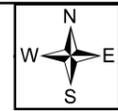
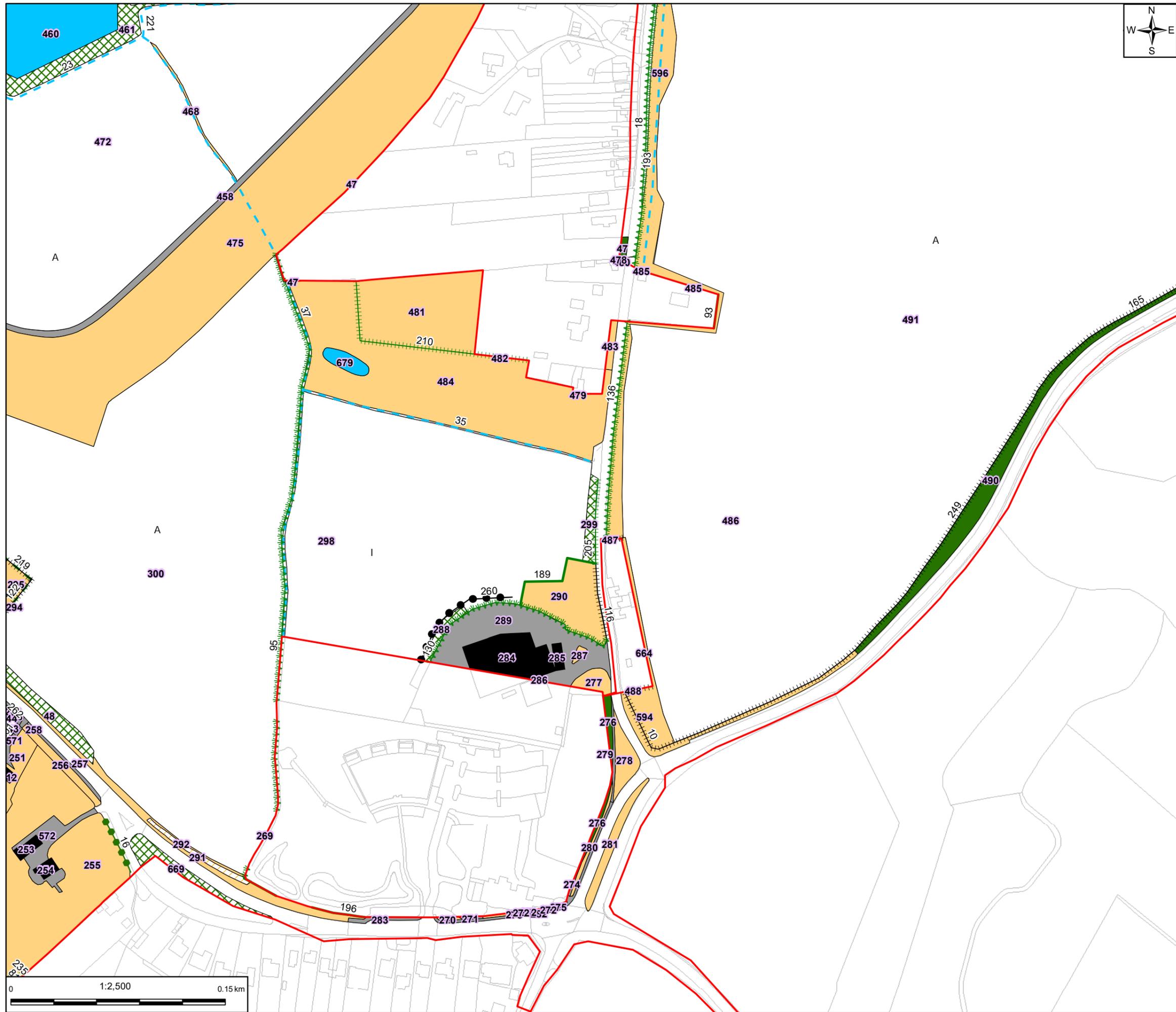
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**Figure 1 Baseline Habitats**  
 Page 11 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
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  - Species poor semi-improved grassland
  - Improved grassland
  - Bare ground
  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

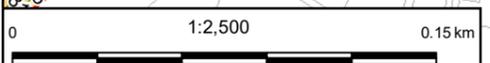
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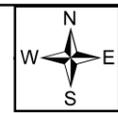
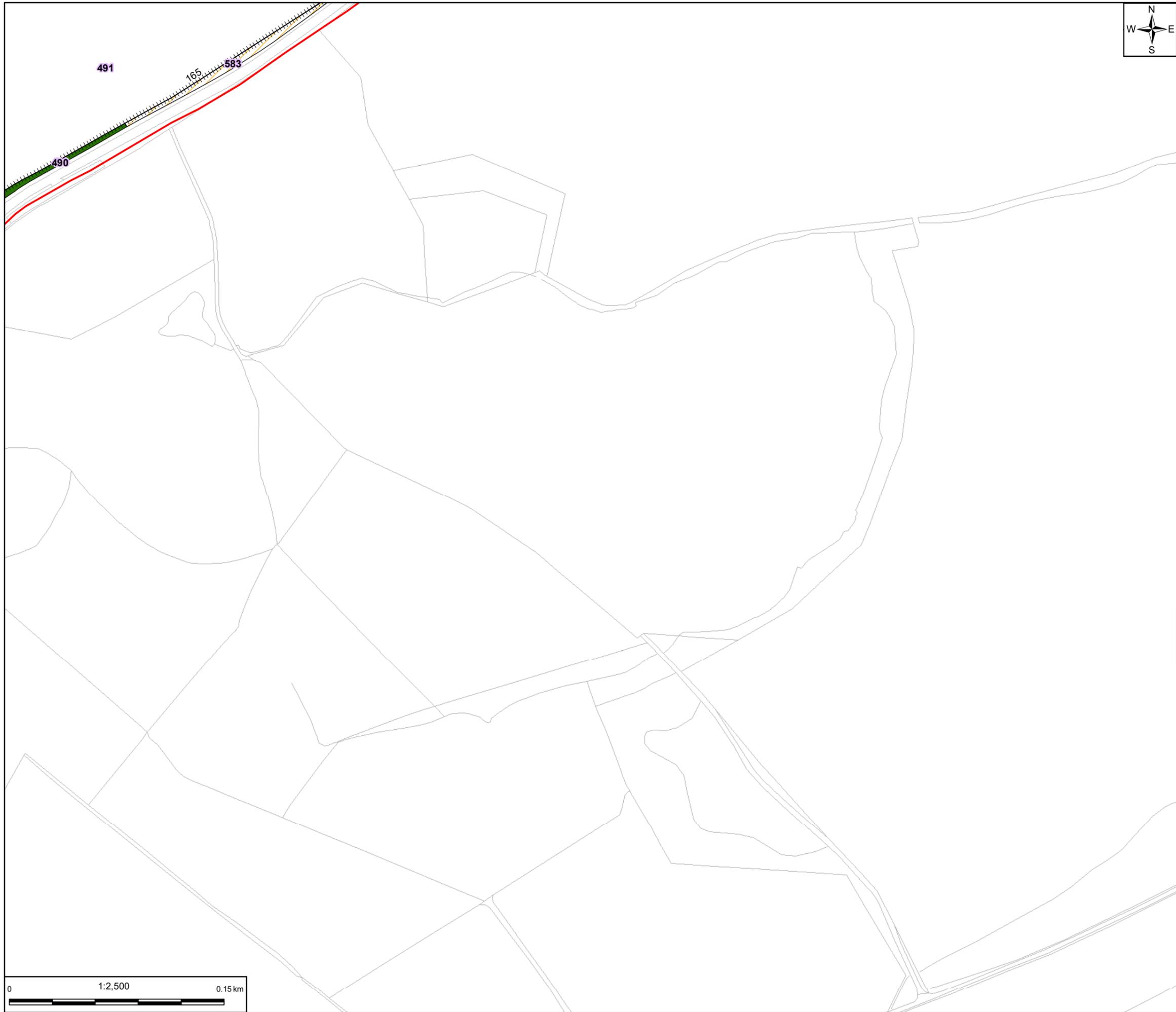
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**OTTERPOOL PARK**  
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**Figure 1 Baseline Habitats**  
 Page 12 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
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  - Building
  - Hardstanding
  - Standing water
  - Riparian corridor \*

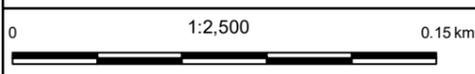
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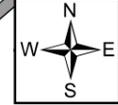
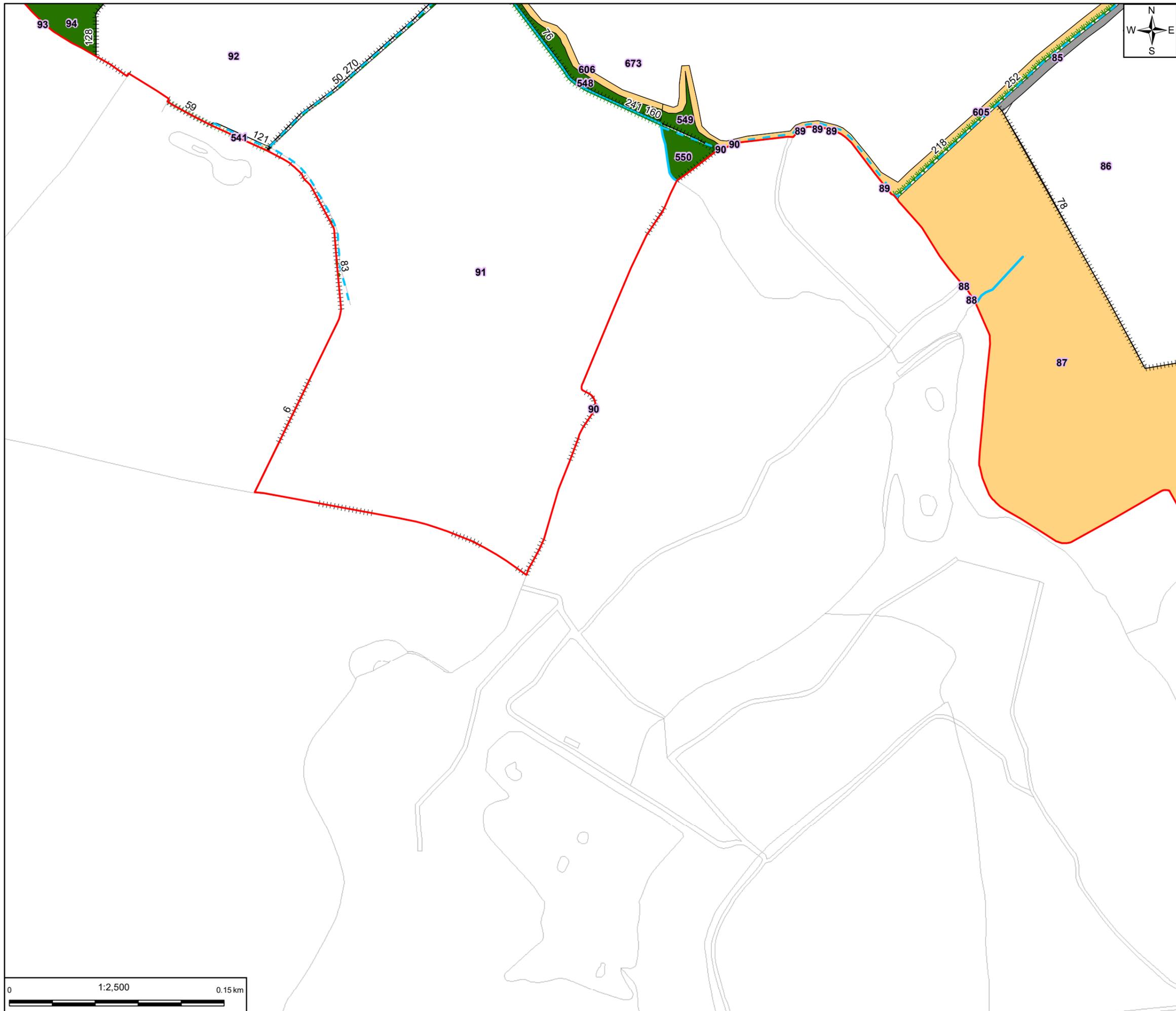
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**Figure 1 Baseline Habitats**  
 Page 13 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
  - Species poor hedgerow with trees (conifer)
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  - Standing water
  - Riparian corridor \*

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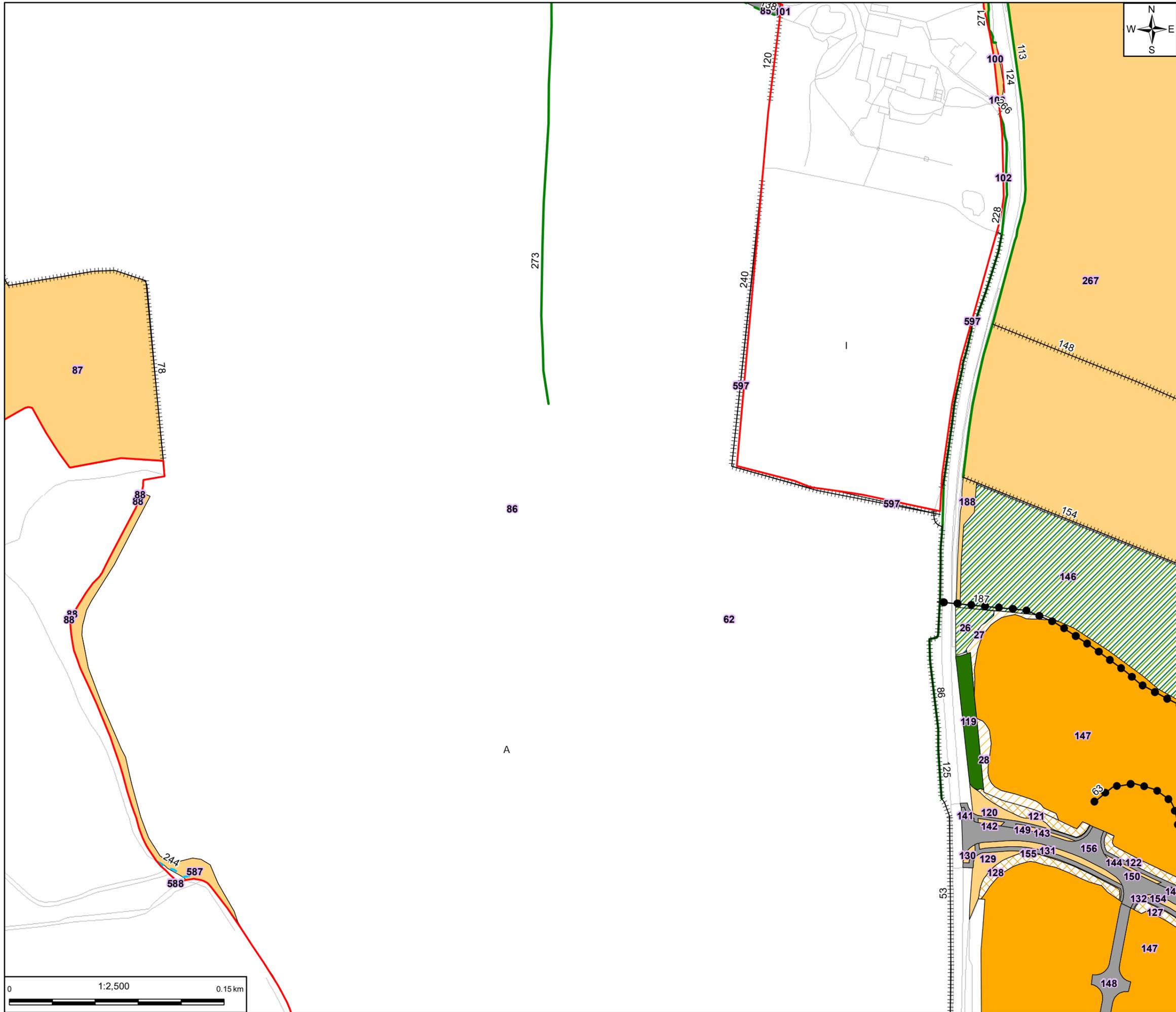
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**Figure 1 Baseline Habitats**  
 Page 14 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
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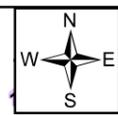
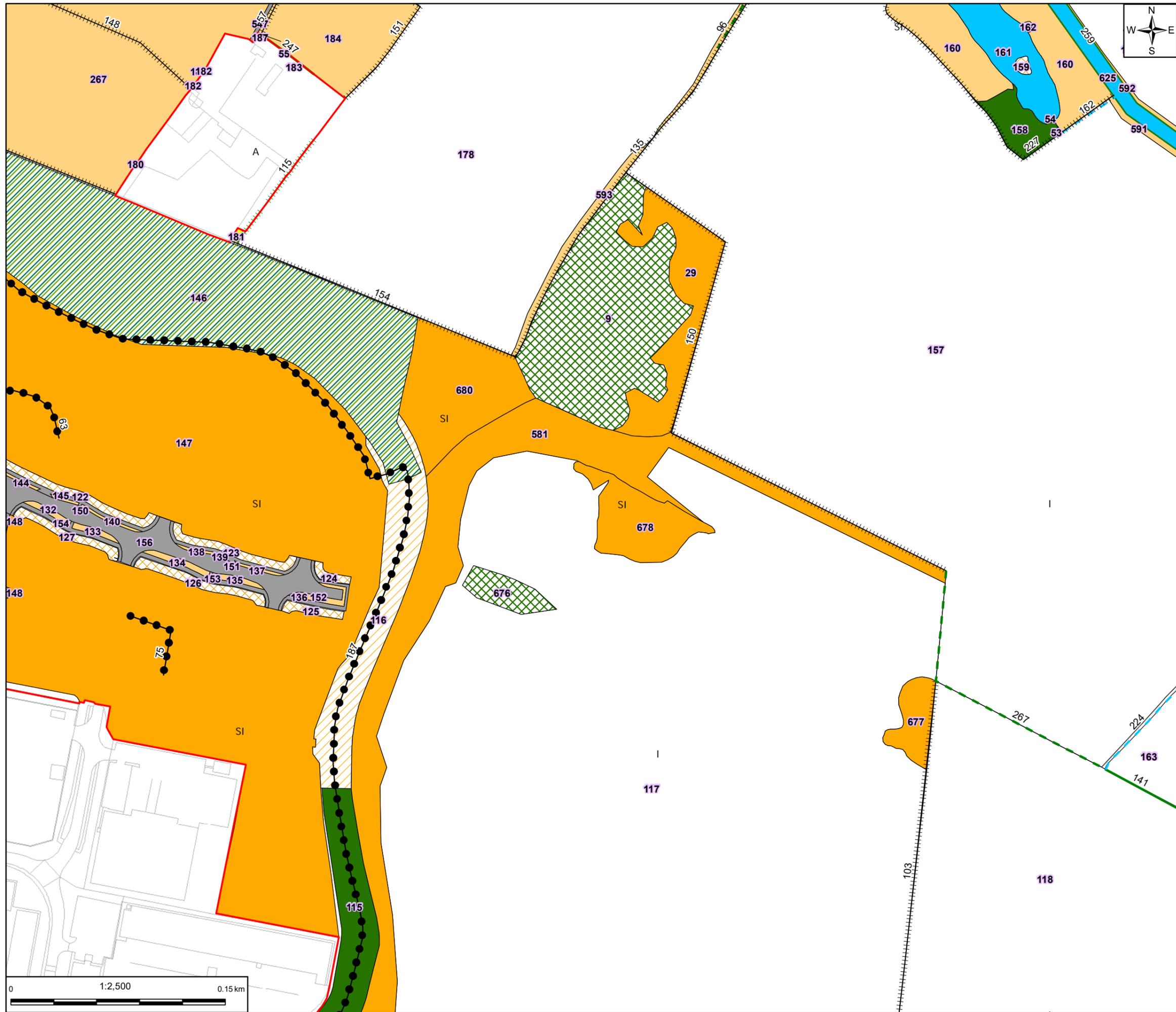
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**Figure 1 Baseline Habitats**  
 Page 15 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG







**Legend**

- Outline Planning Application Boundary
- Earth Bank
- Species poor hedgerow with trees (conifer)
- Native species-rich intact hedge
- Species poor intact hedge
- Species poor defunct hedge
- Native species-rich hedge with trees
- Species poor hedge with trees
- Fence
- Ditch
- Running water
- Wall
- Broad-leaved semi-natural woodland
- Broad-leaved parkland scattered trees
- Mixed plantation woodland
- Plantation woodland
- Dense/continuous scrub
- Ephemeral / short-perennial
- Introduced shrub
- Tall ruderal
- Amenity grassland
- Arable
- Semi-improved neutral grassland
- Species poor semi-improved grassland
- Improved grassland
- Bare ground
- Building
- Hardstanding
- Standing water
- Riparian corridor \*

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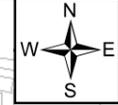
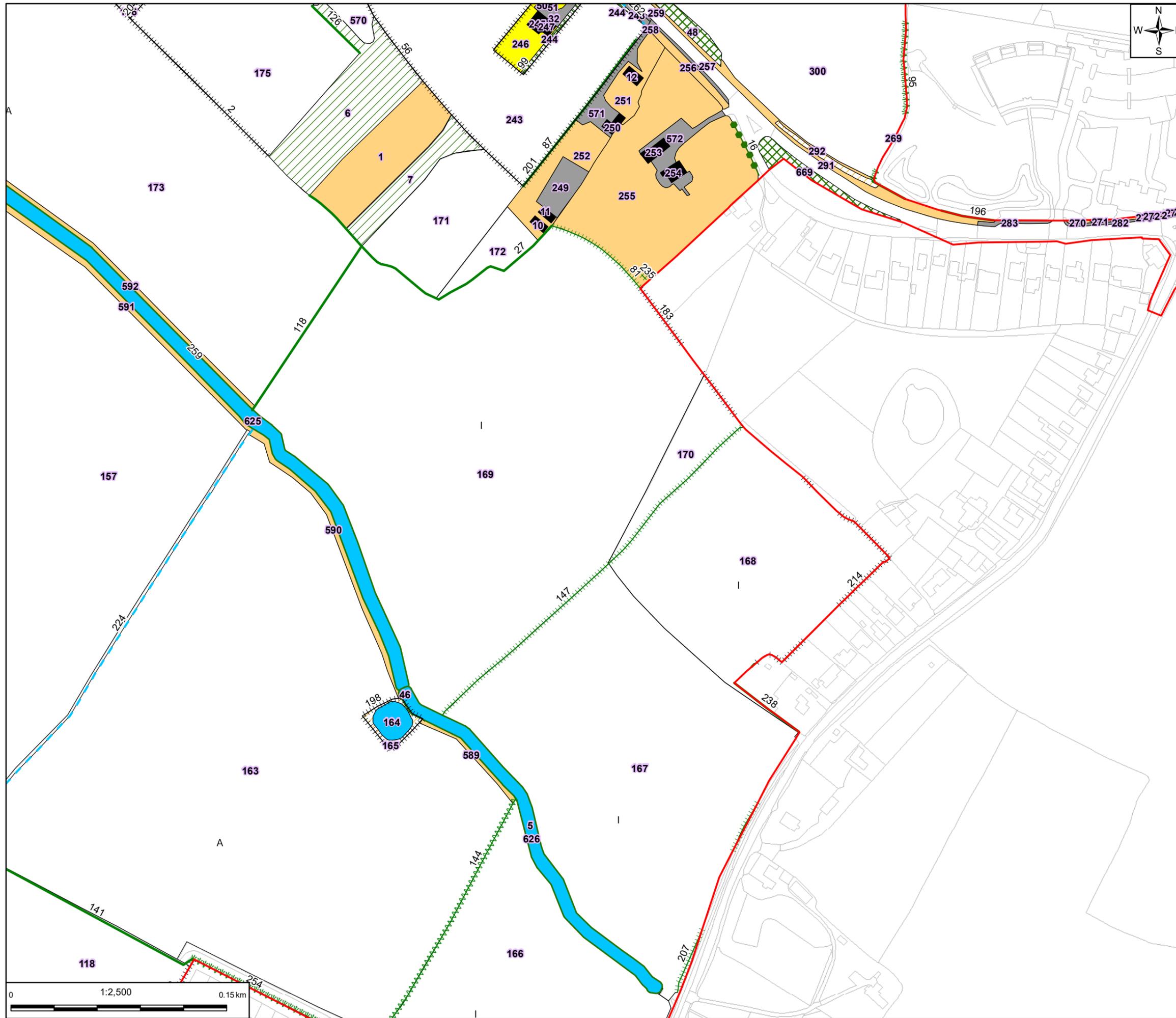
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**Figure 1 Baseline Habitats**  
 Page 16 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Earth Bank
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  - Riparian corridor \*

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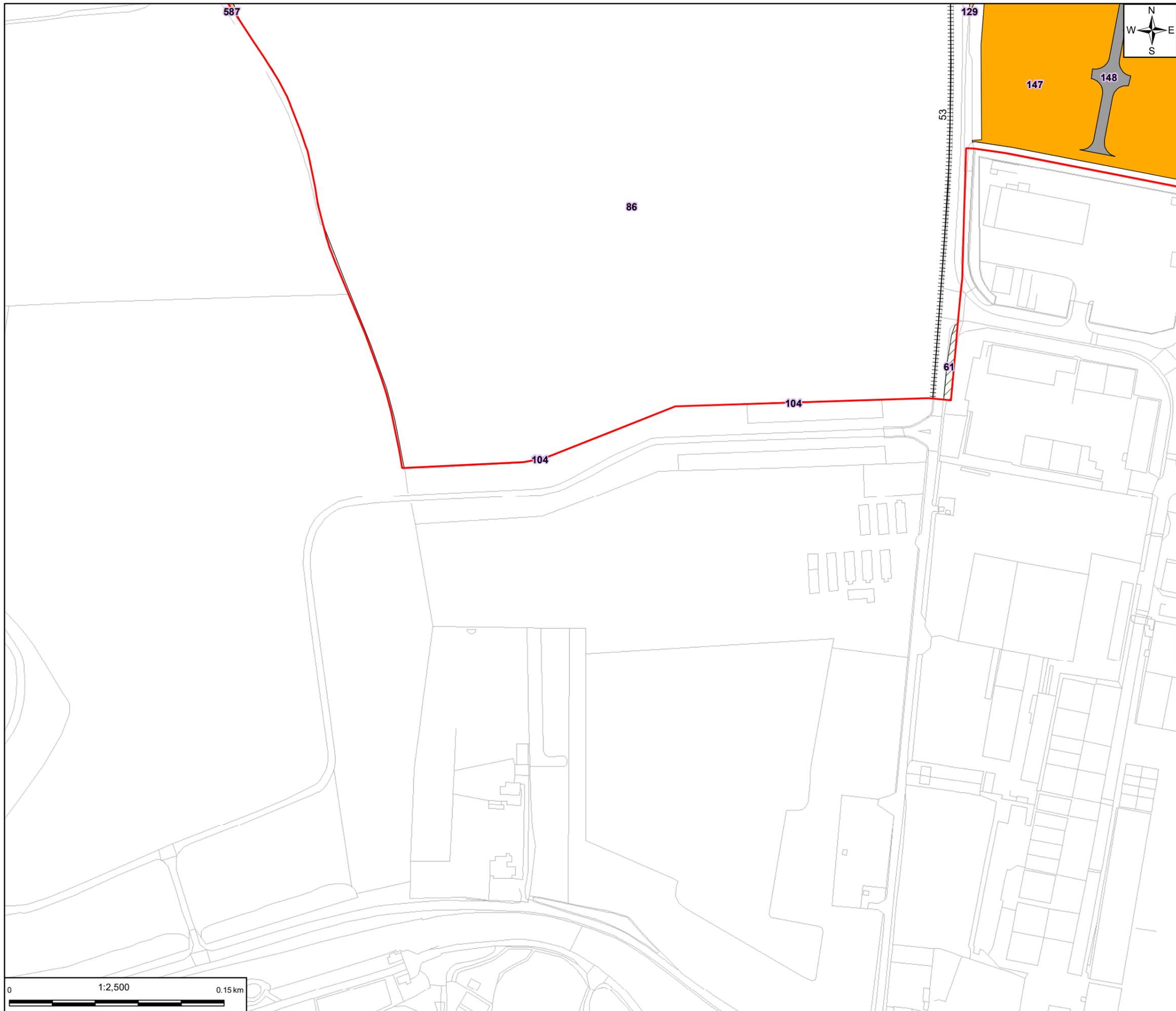
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**Figure 1 Baseline Habitats**  
Page 17 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



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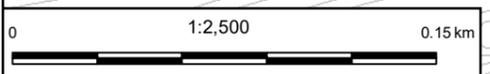
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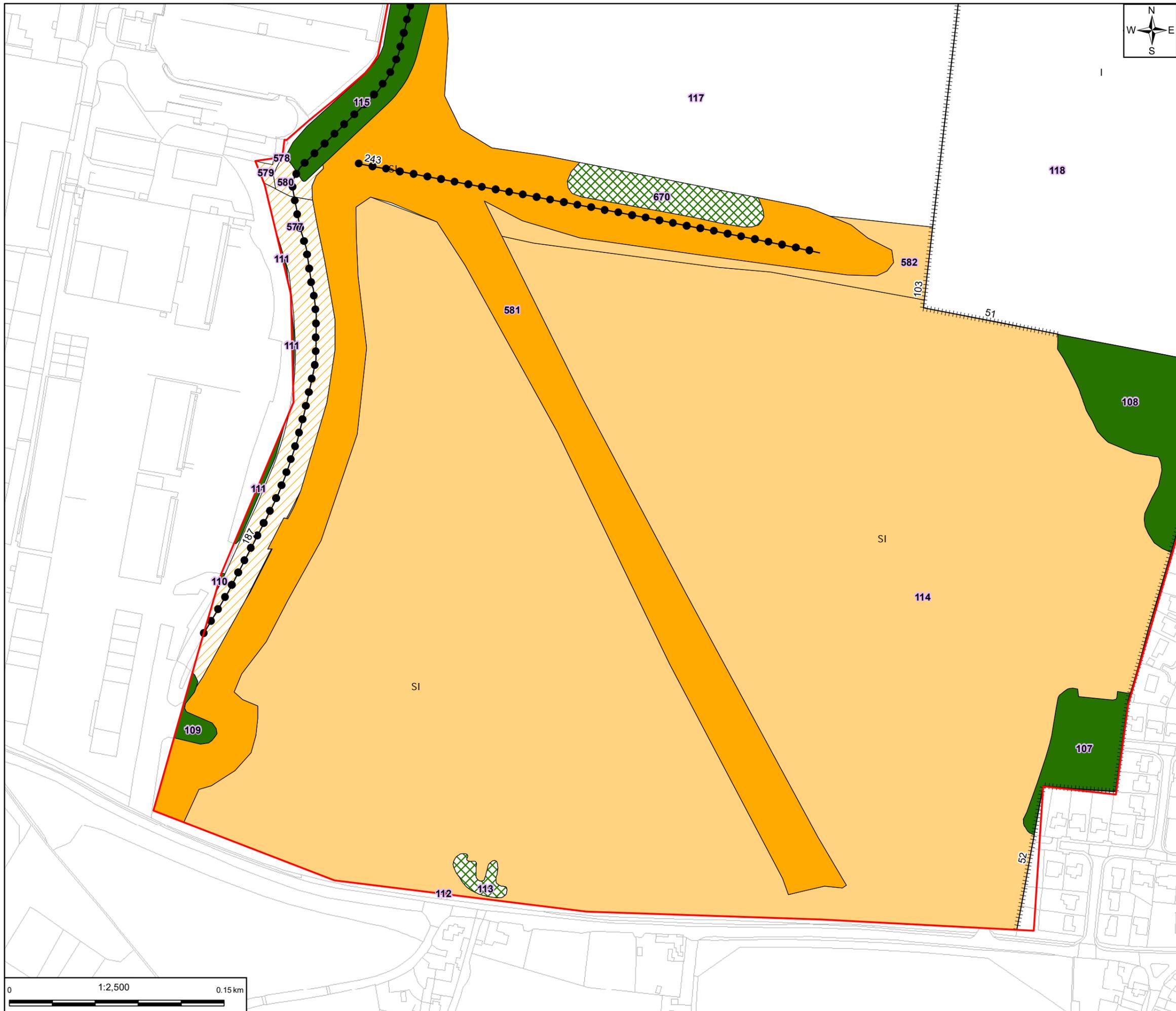
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**Figure 1 Baseline Habitats**  
Page 18 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG



**Legend**

- Outline Planning Application Boundary
- Earth Bank
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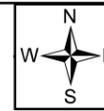
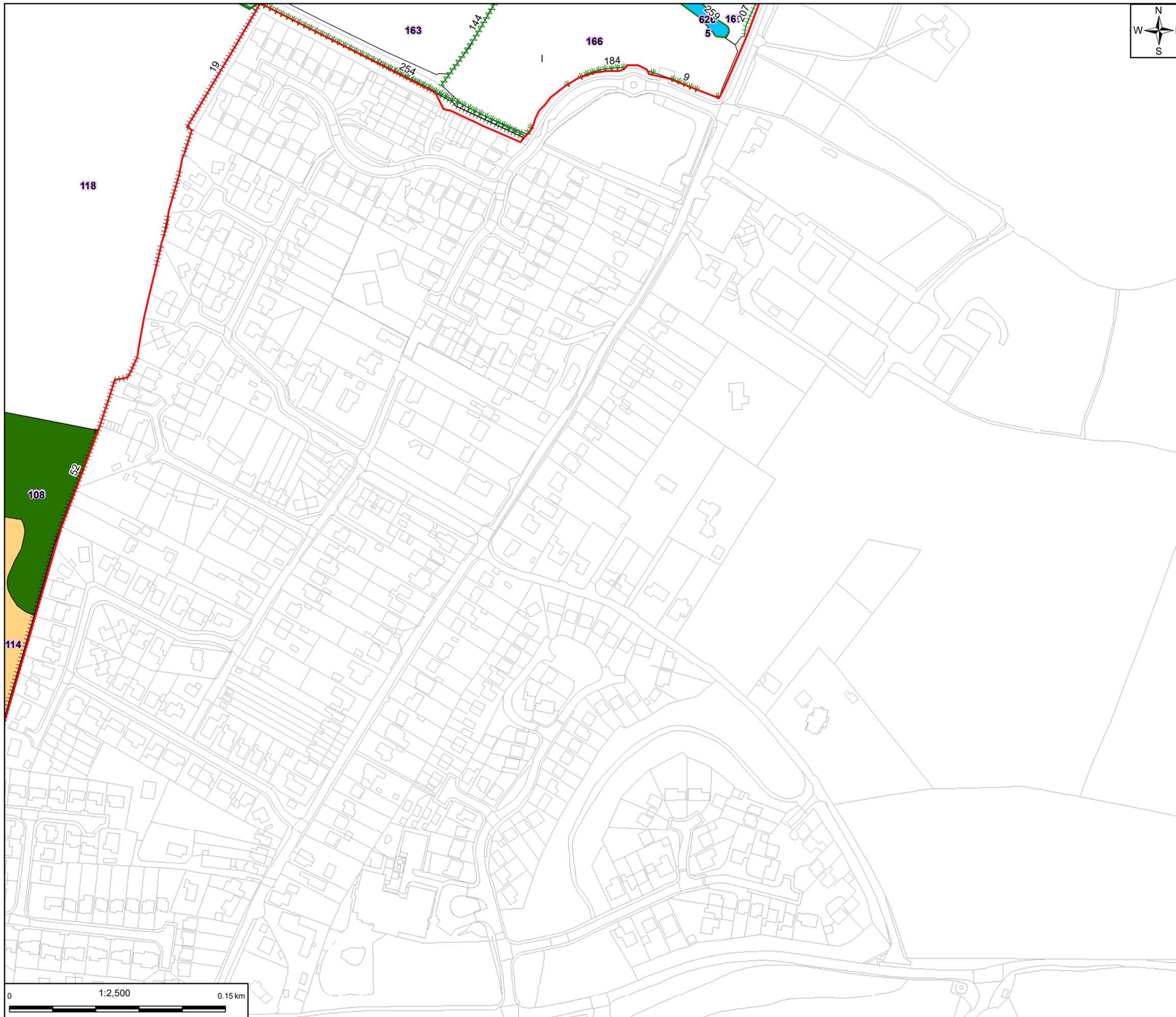
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**Figure 1 Baseline Habitats**  
 Page 19 of 20

scale	original size	datum	grid
1:2,500	A3	Sx	BNG



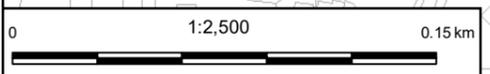
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  - A Amenity grassland
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  - I Improved grassland
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  - Building
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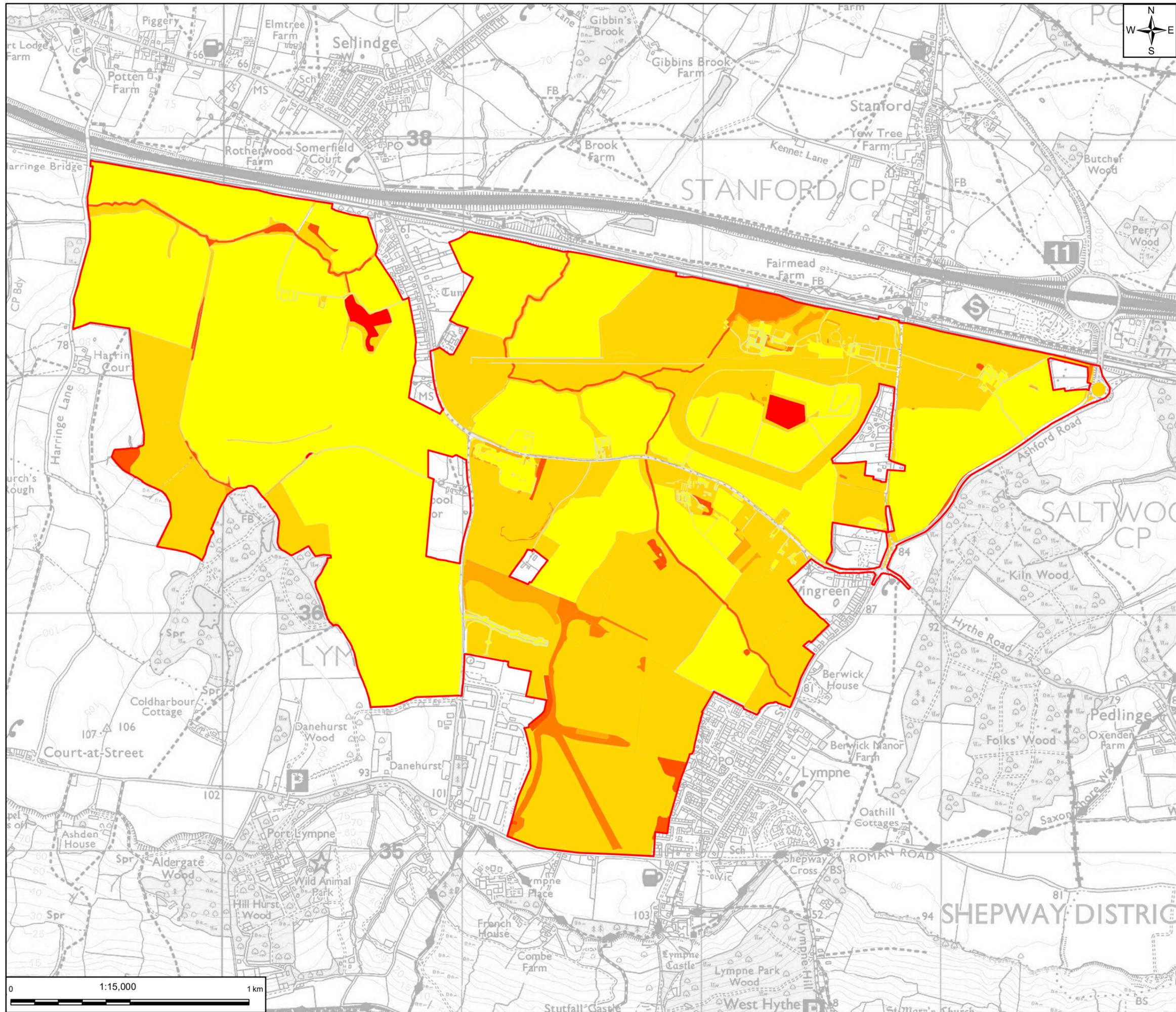


**Figure 1 Baseline Habitats**  
Page 20 of 20



scale	original size	datum	grid
1:2,500	A3	Sx	BNG

## Figure 2: Site baseline habitat valuation



**Legend**

- Outline Planning Application Boundary

**Biodiversity Units Per Hectare**

- 0 - 2
- 2 - 4
- 4 - 8
- 8 - 12
- 12 - 16
- 16 - 21

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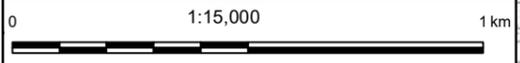
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**Figure 2**  
**Site Baseline Habitat Valuation**

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1:15,000	A3	Sx	BNG



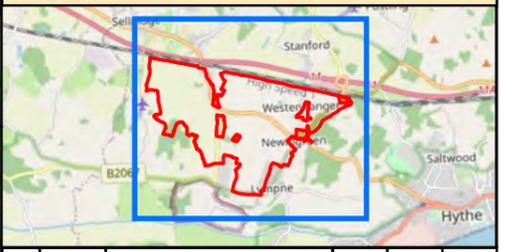
## Figure 3: Site Hedgerow Baseline





- Legend**
- Outline Planning Application Boundary
  - Framework Masterplan Boundary
  - Important Hedgerow
  - Standard Hedgerow

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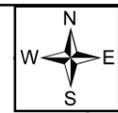
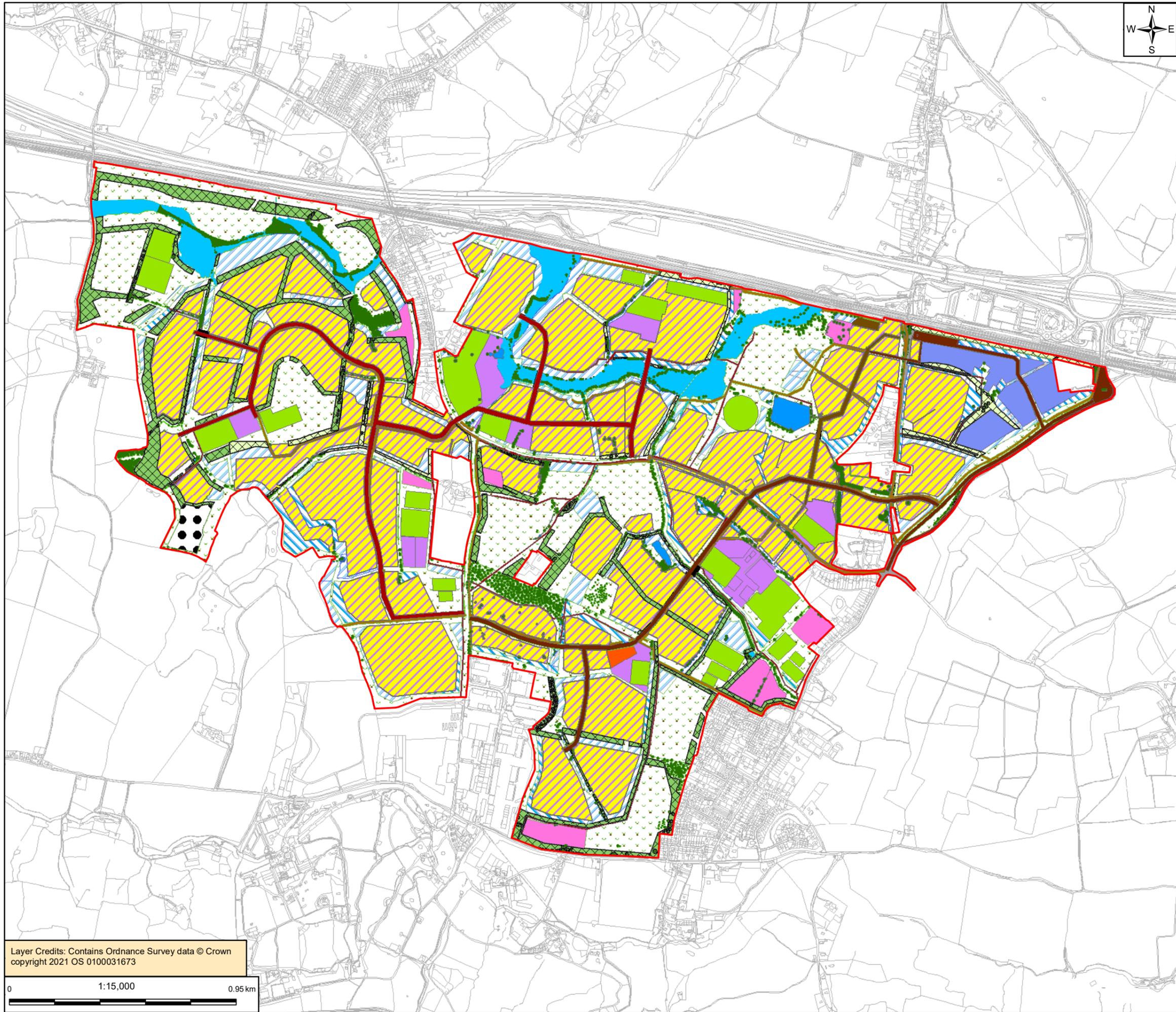
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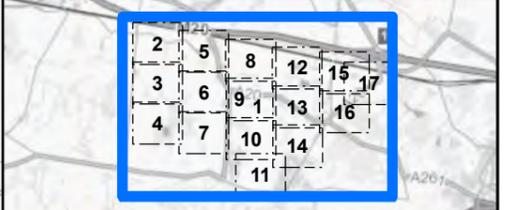
**Figure 3**  
**Hedgerow Survey Results**

scale	original size	datum	grid
1:15,000	A3	Sx	BNG

## **Figure 4: Outline GI strategy (adapted from the Illustrative masterplan)**



- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Proposed Movement corridor
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Existing Water Pond
  - Existing Woods
  - Existing Woods Outside
  - Proposed Allotments
  - Proposed Bridge Crossing
  - Proposed Burial Ground
  - Proposed Business
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed High School
  - Proposed Phasing 1A
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Advance Planting Phase 2 & 3
  - Proposed Suds Water Management
  - Proposed Woodland
  - Existing Road



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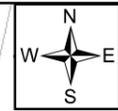


**Figure 4**  
Outline GI Strategy  
Page 1 of 17

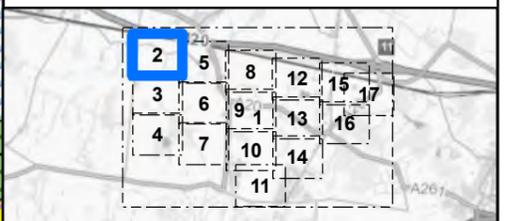
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scale	original size	datum	grid
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- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Proposed Bridge Crossing
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 2 & 3
  - Proposed Suds Water Management



REV	Date	Description	Drawn	Check	Approv
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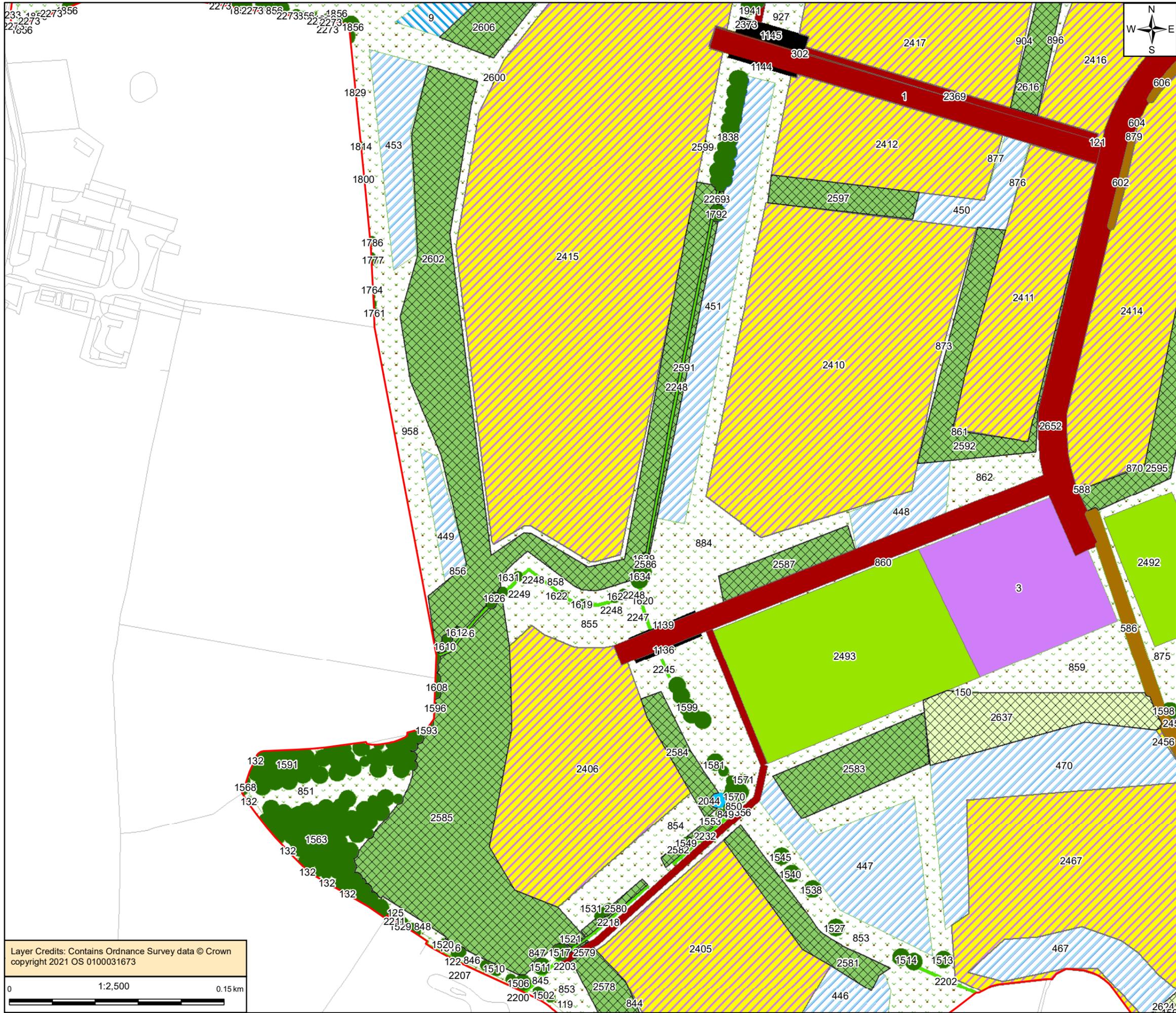


**Figure 4**  
Outline GI Strategy  
Page 2 of 17

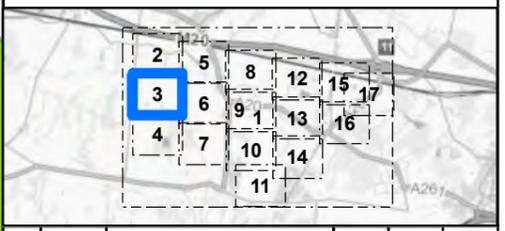
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- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
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  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Advance Planting Phase 2 & 3
  - Proposed Suds Water Management



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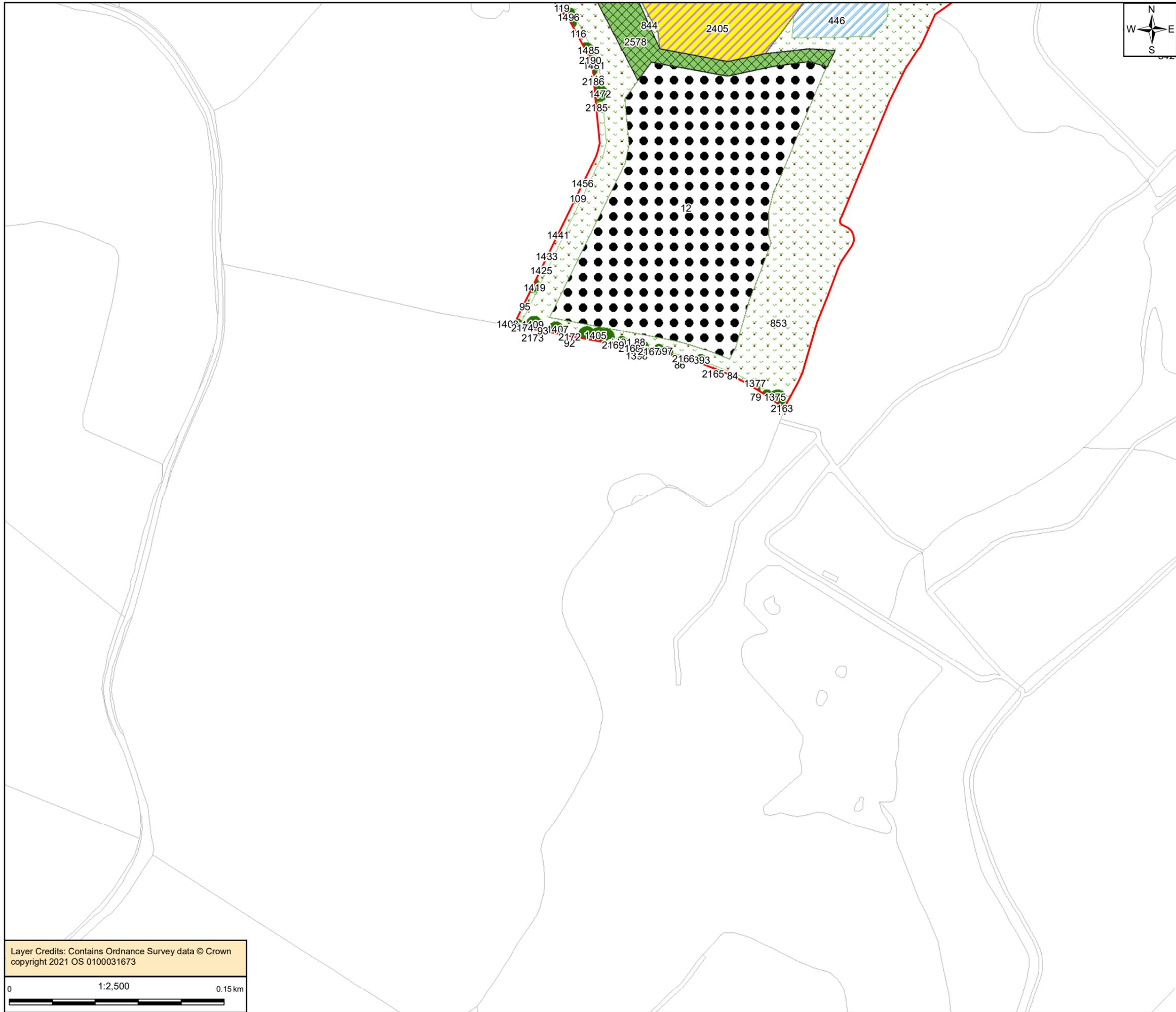
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**Figure 4**  
**Outline GI Strategy**  
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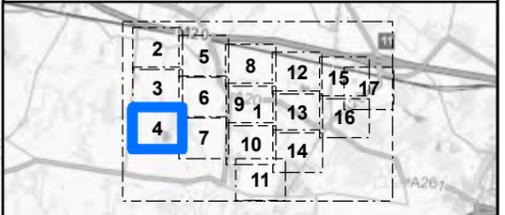
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



**Legend**

- Outline Planning Application Boundary
- Existing Scattered Trees
- Existing Trees Existing Hedges
- Proposed Burial Ground
- Proposed Development Areas.
- Proposed General Green Infrastructure
- Proposed Suds Hatch
- Advance Planting Phase 1
- Advance Planting Phase 2 & 3



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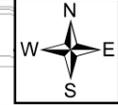
  
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**Figure 4**  
**Outline GI Strategy**  
 Page 4 of 17

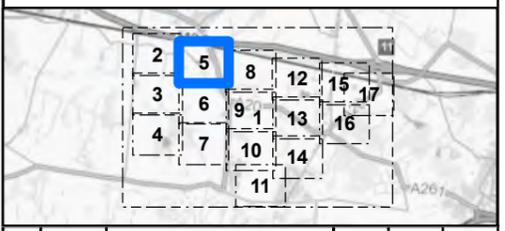
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Proposed Potential Accessibility
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Proposed Allotments
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed General Green infrastructure
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 2 & 3
  - Proposed Woodland



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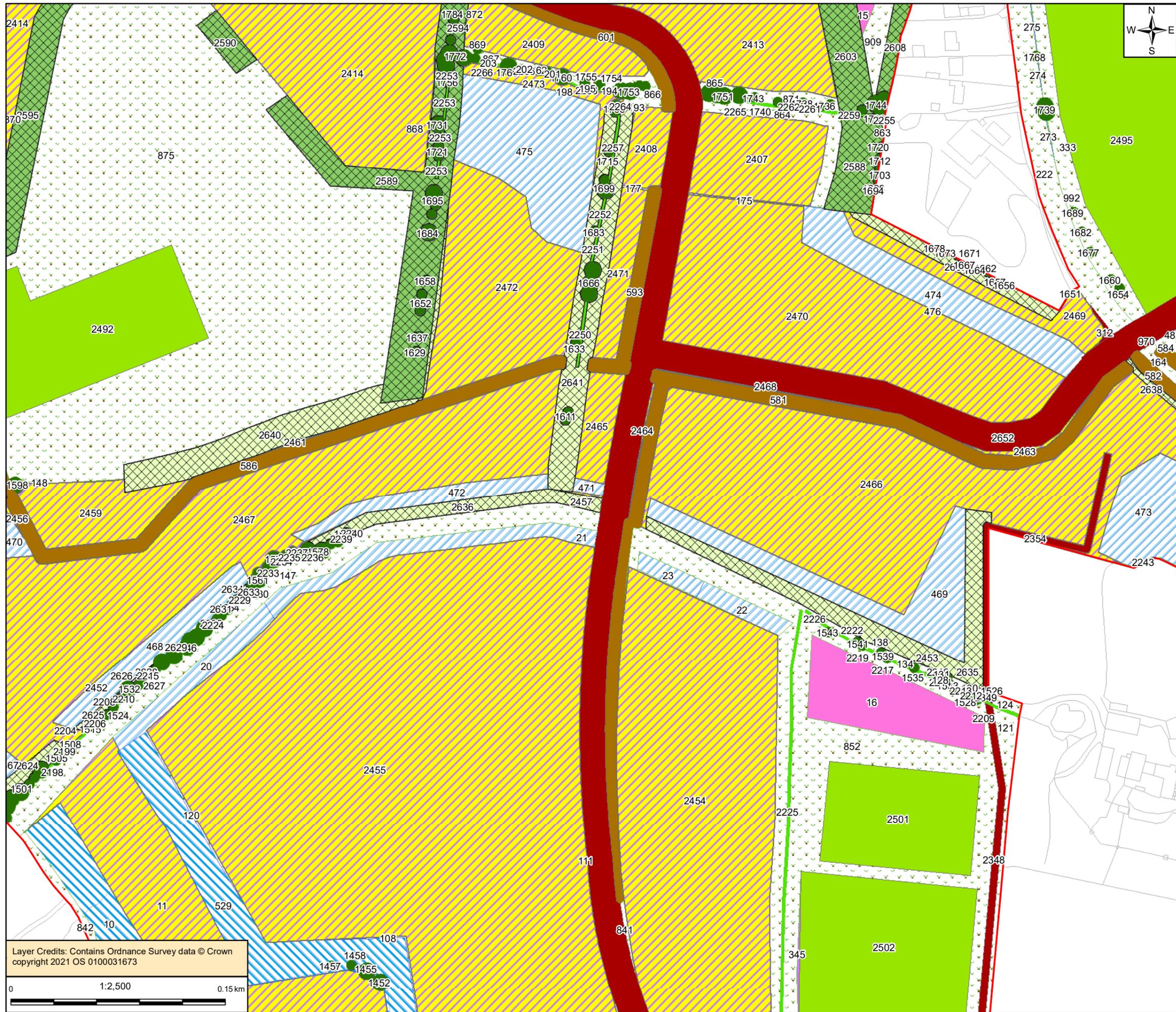
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**Figure 4**  
**Outline GI Strategy**  
 Page 5 of 17

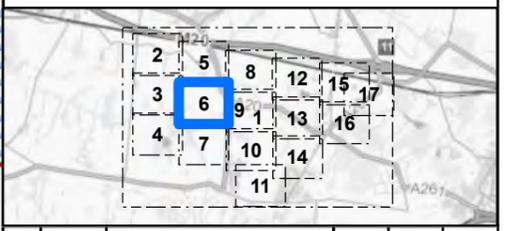
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0 1:2,500 0.15 km

scale	original size	datum	grid
1:2,500	A3	Sx	BNG



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  - Advance Planting Phase 1
  - Advance Planting Phase 2 & 3
  - Proposed Suds Water Management
  - Proposed Woodland



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**Figure 4**  
**Outline GI Strategy**  
 Page 6 of 17

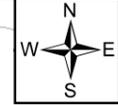
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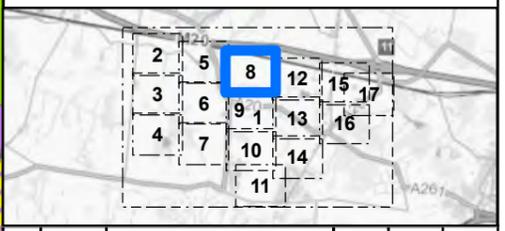
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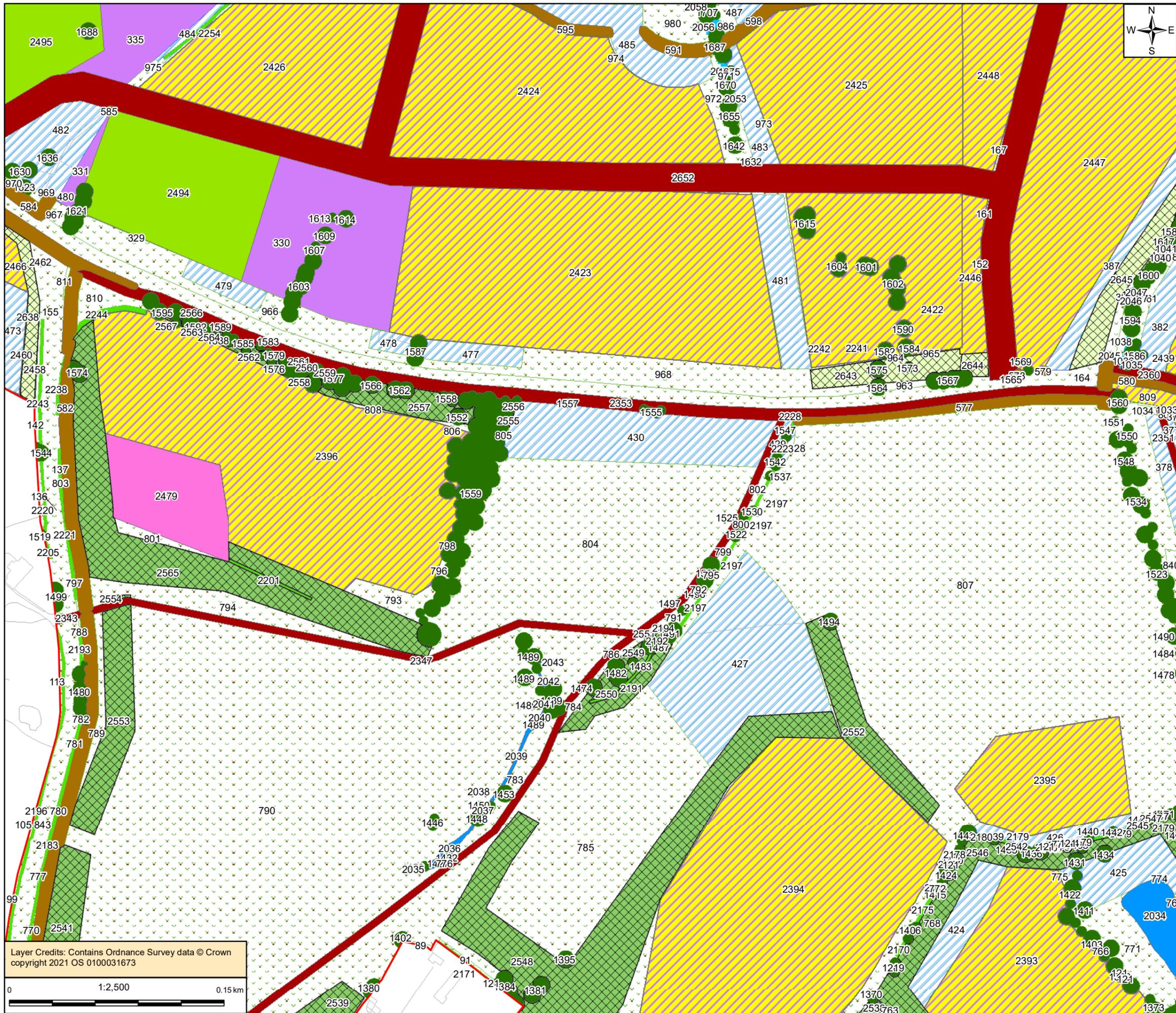
  
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**Figure 4**  
**Outline GI Strategy**  
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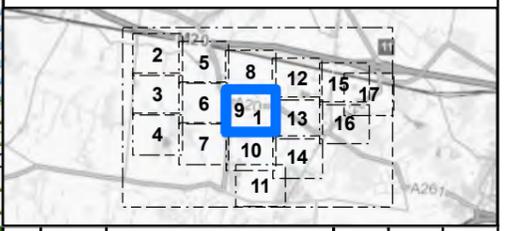
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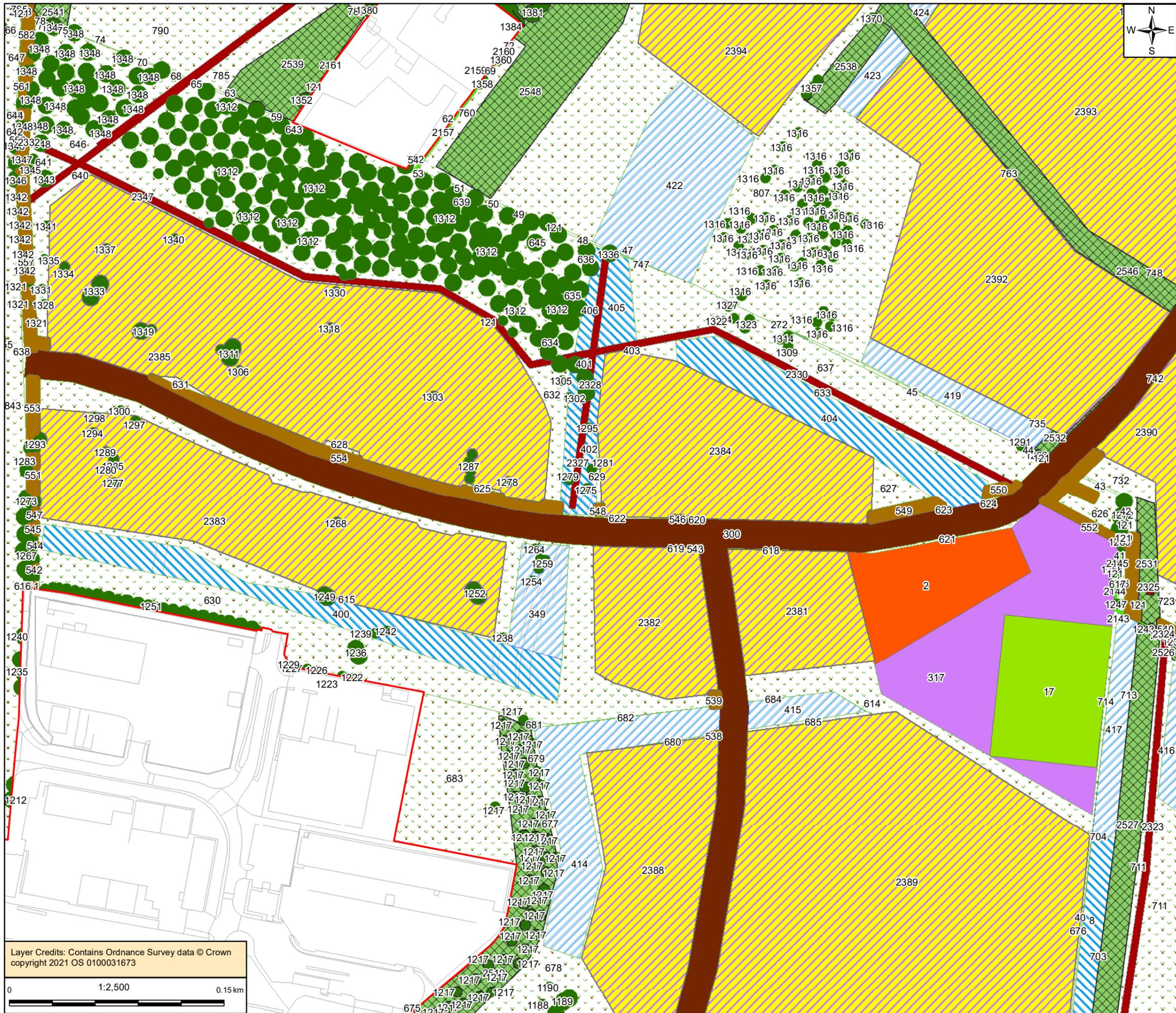
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**Figure 4**  
**Outline GI Strategy**  
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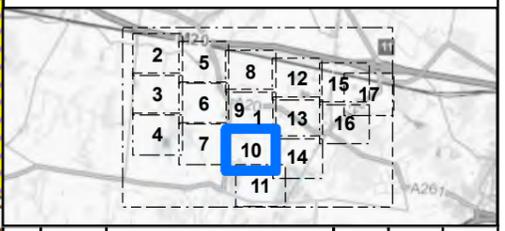
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Existing Scattered Trees
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  - Proposed Suds Hatch
  - Proposed Suds Water Management
  - Advance Planting Phase 2 & 3



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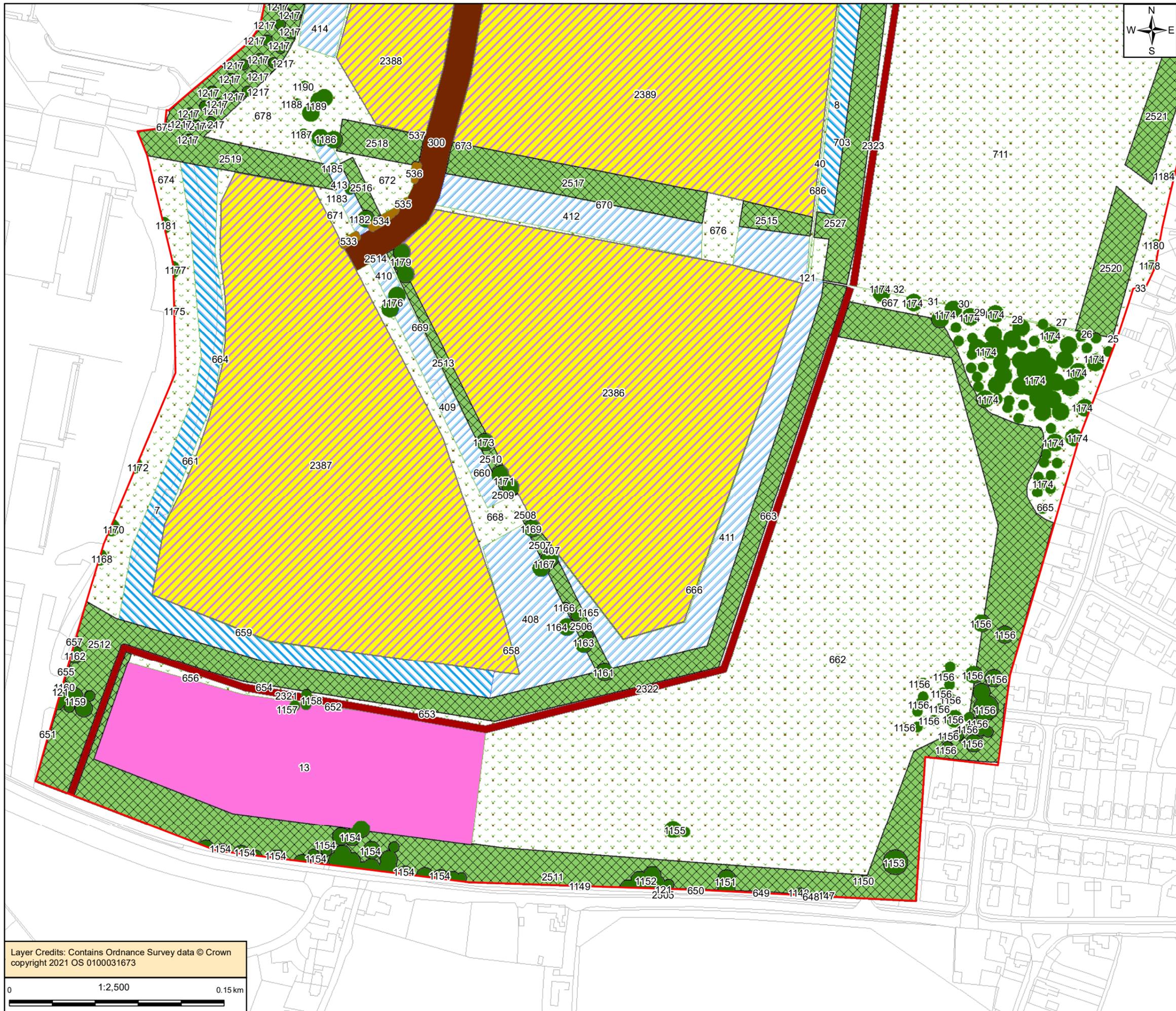
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**Outline GI Strategy**  
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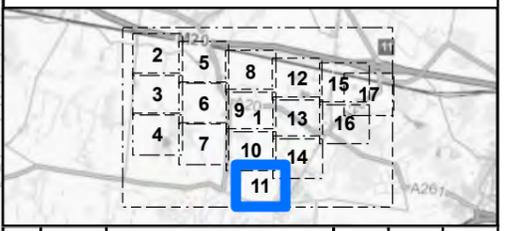
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scale	original size	datum	grid
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- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
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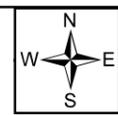
**OTTERPOOL PARK**  
 COUNTRYSIDE · CONNECTED · CREATIVE

**Figure 4**  
**Outline GI Strategy**  
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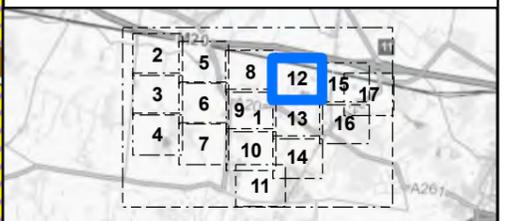
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Proposed Movement corridor
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Existing Water Pond
  - Proposed Allotments
  - Proposed Bridge Crossing
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Proposed Suds Water Management
  - Proposed Woodland



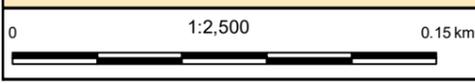
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**Figure 4**  
**Outline GI Strategy**  
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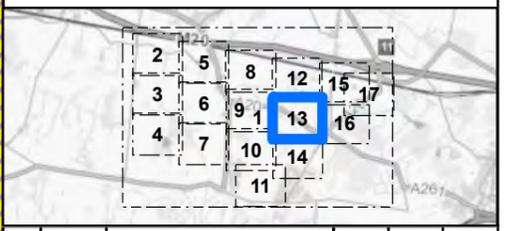
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scale	original size	datum	grid
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- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Proposed Movement corridor
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Existing Water Pond
  - Existing Woods Outside
  - Proposed Bridge Crossing
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed Phasing 1A
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Proposed Suds Water Management
  - Existing Road



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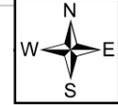
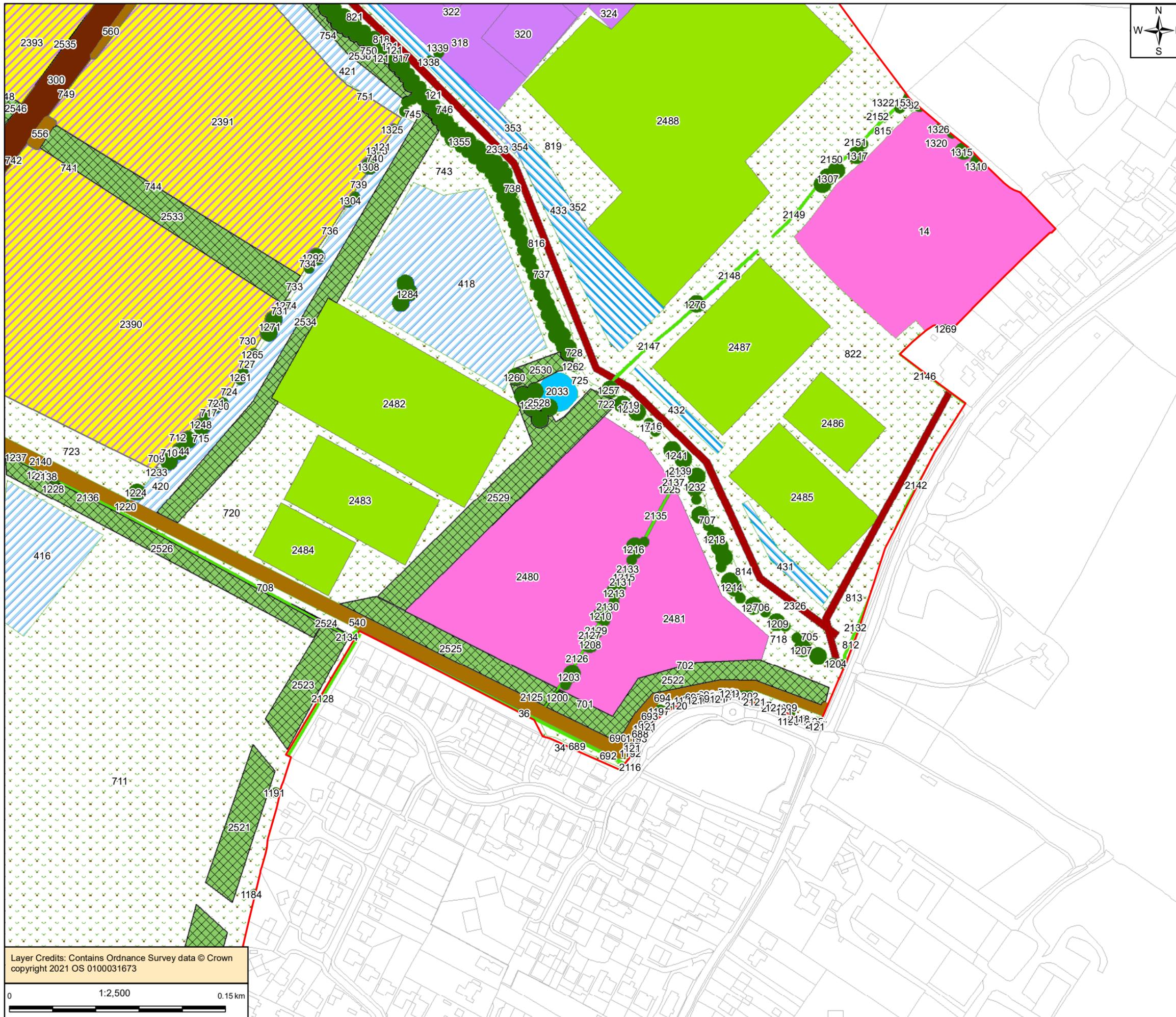
**OTTERPOOL PARK**  
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**Figure 4**  
**Outline GI Strategy**  
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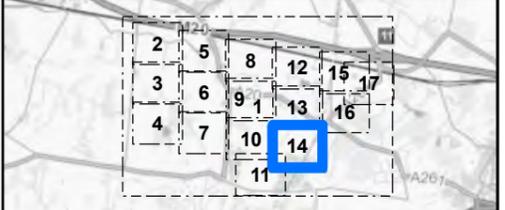
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Water Area / Proposed River Park
  - Proposed Allotments
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed School Area
  - Proposed Sport Field
  - Proposed Suds Hatch
  - Advance Planting Phase 2 & 3
  - Proposed Suds Water Management



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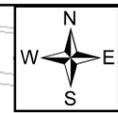
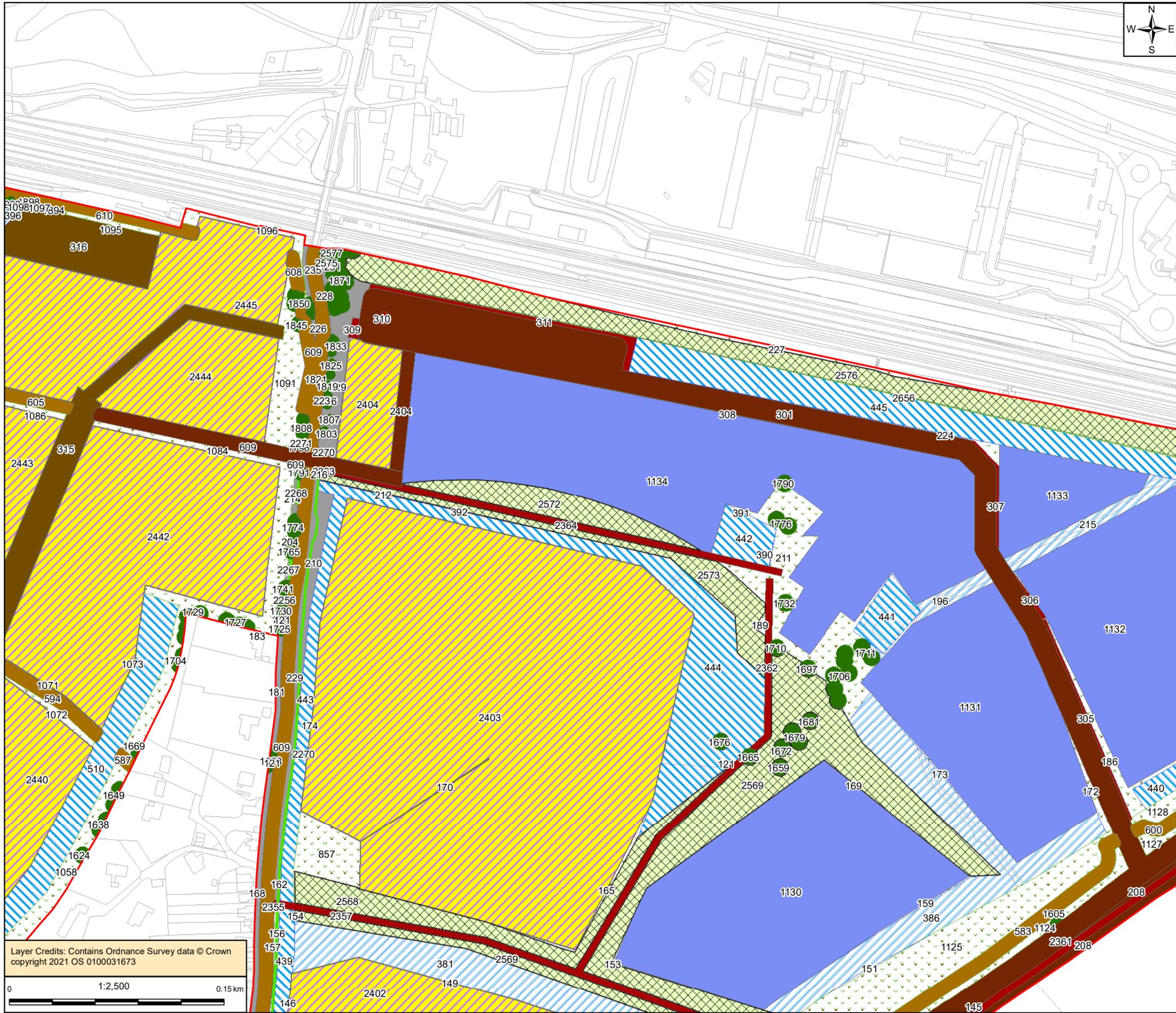
**Figure 4**  
**Outline GI Strategy**  
 Page 14 of 17

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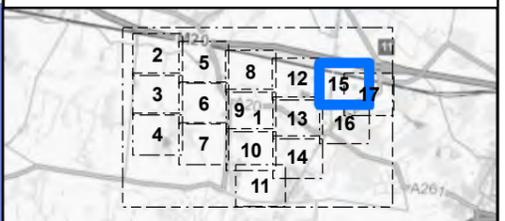


scale	original size	datum	grid
1:2,500	A3	Sx	BNG





- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Proposed Movement corridor
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Proposed Business
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Proposed Suds Water Management
  - Existing Road



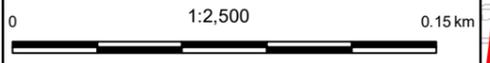
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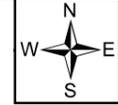
  
**OTTERPOOL PARK**  
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**Figure 4**  
**Outline GI Strategy**  
 Page 15 of 17

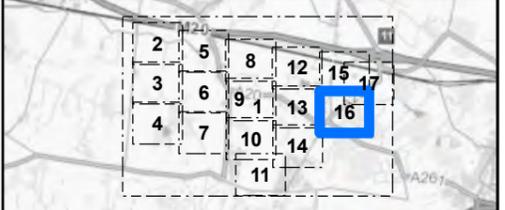
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scale	original size	datum	grid
1:2,500	A3	Sx	BNG



- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Existing Scattered Trees
  - Existing Trees Existing Hedges
  - Existing Woods
  - Proposed Business
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed Phasing 1A
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Proposed Suds Water Management
  - Existing Road



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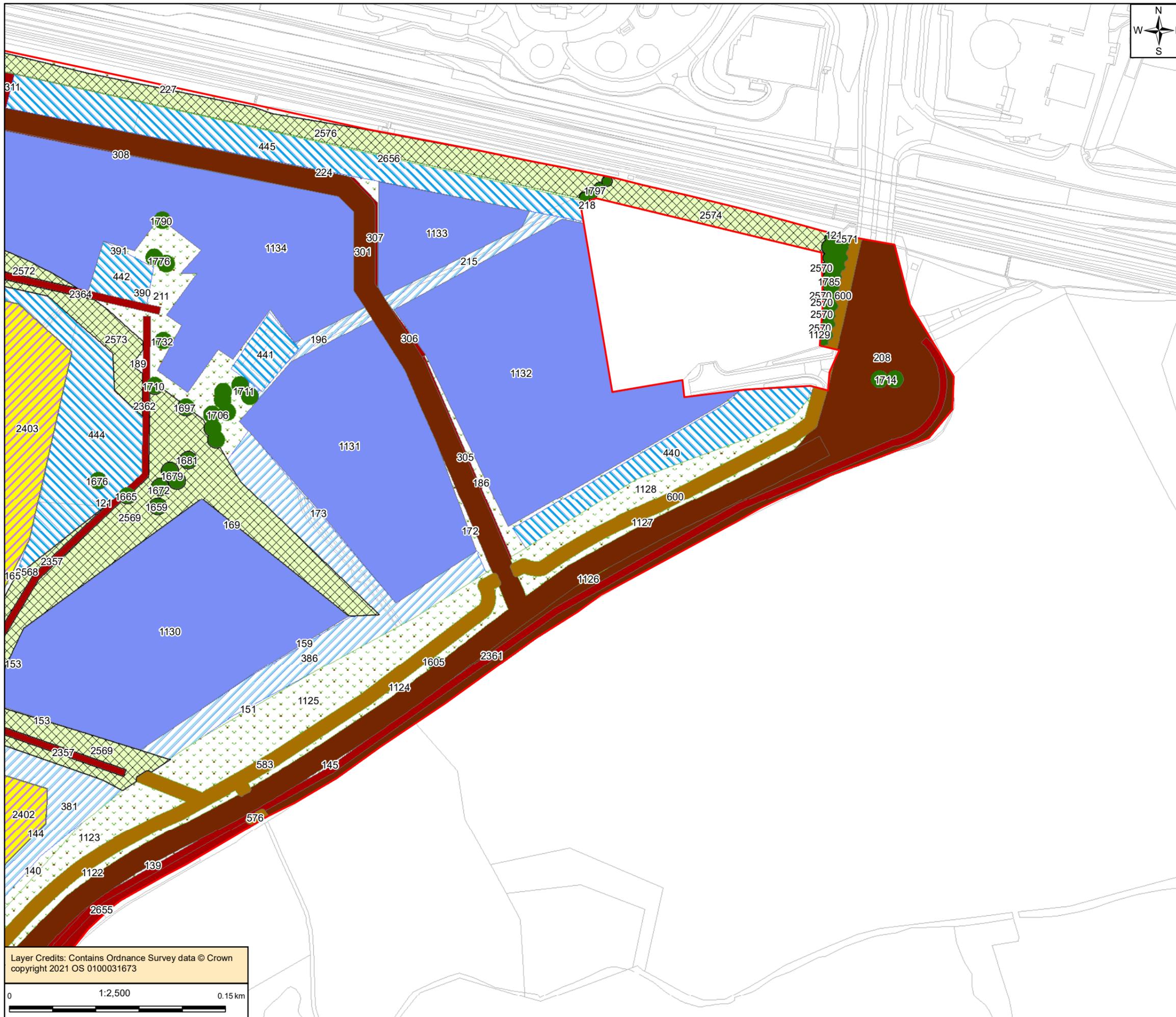
**OTTERPOOL PARK**  
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**Figure 4**  
**Outline GI Strategy**  
 Page 16 of 17

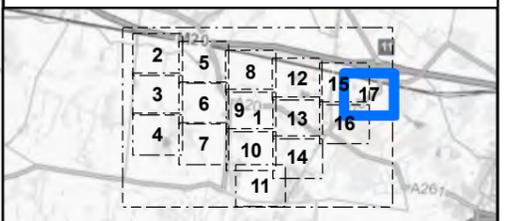
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scale	original size	datum	grid
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- Legend**
- Outline Planning Application Boundary
  - Proposed Primary Roads
  - Proposed Potential Accessibility
  - Existing Scattered Trees
  - Proposed Business
  - Proposed Cycleways
  - Proposed Development Areas.
  - Proposed Footpaths
  - Proposed General Green infrastructure
  - Proposed Suds Hatch
  - Advance Planting Phase 1
  - Proposed Suds Water Management



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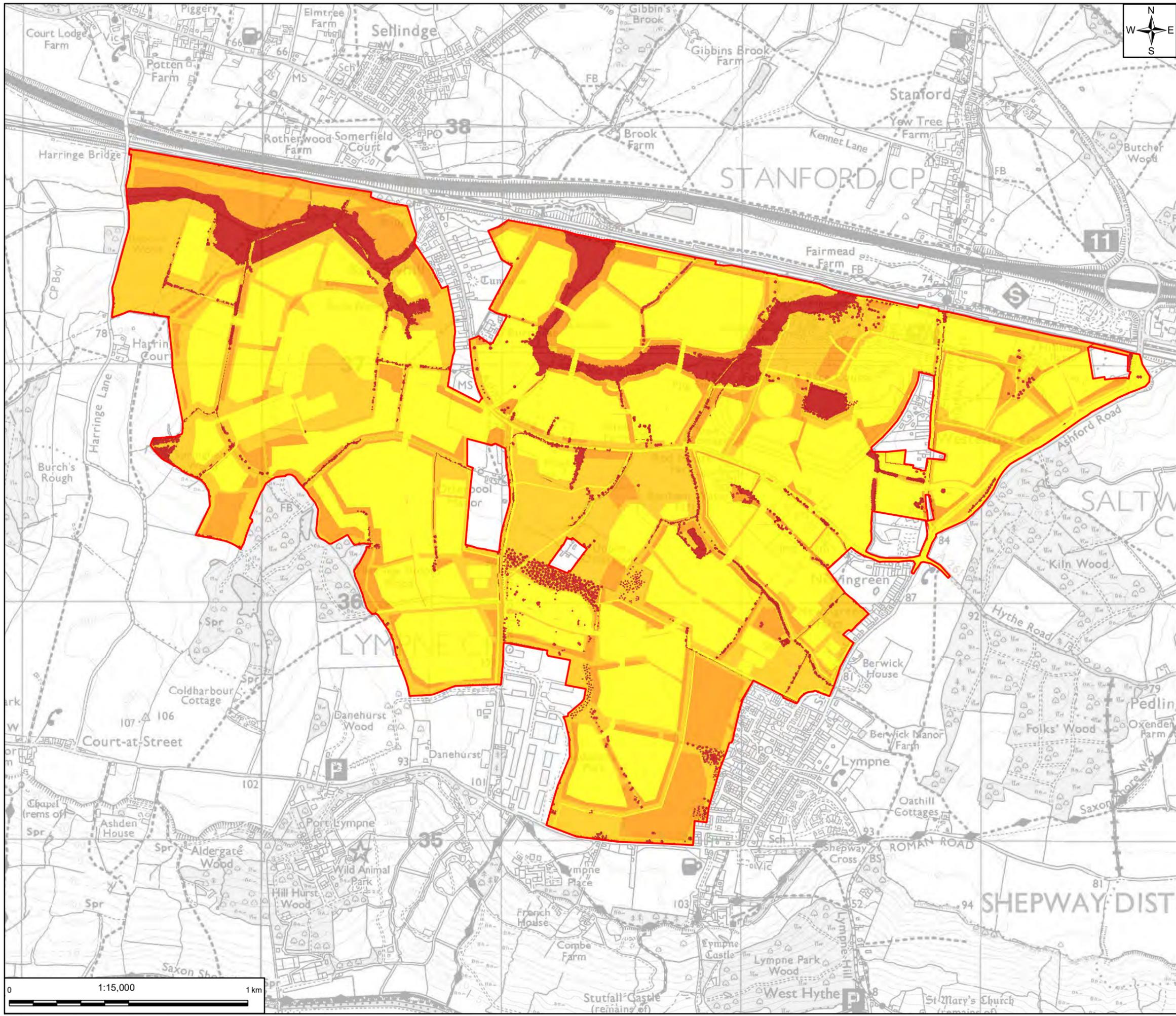
**Figure 4**  
**Outline GI Strategy**  
 Page 17 of 17

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scale	original size	datum	grid
1:2,500	A3	Sx	BNG

## Figure 5: Valuation of habitats post-construction



**Legend**

- Outline Planning Application Boundary

**Post Development Biodiversity Units per Hectare**

- < 3
- 3 - 6
- 6 - 9
- 9 - 12
- 12 - 16

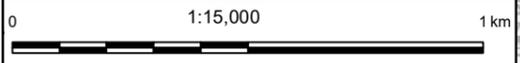
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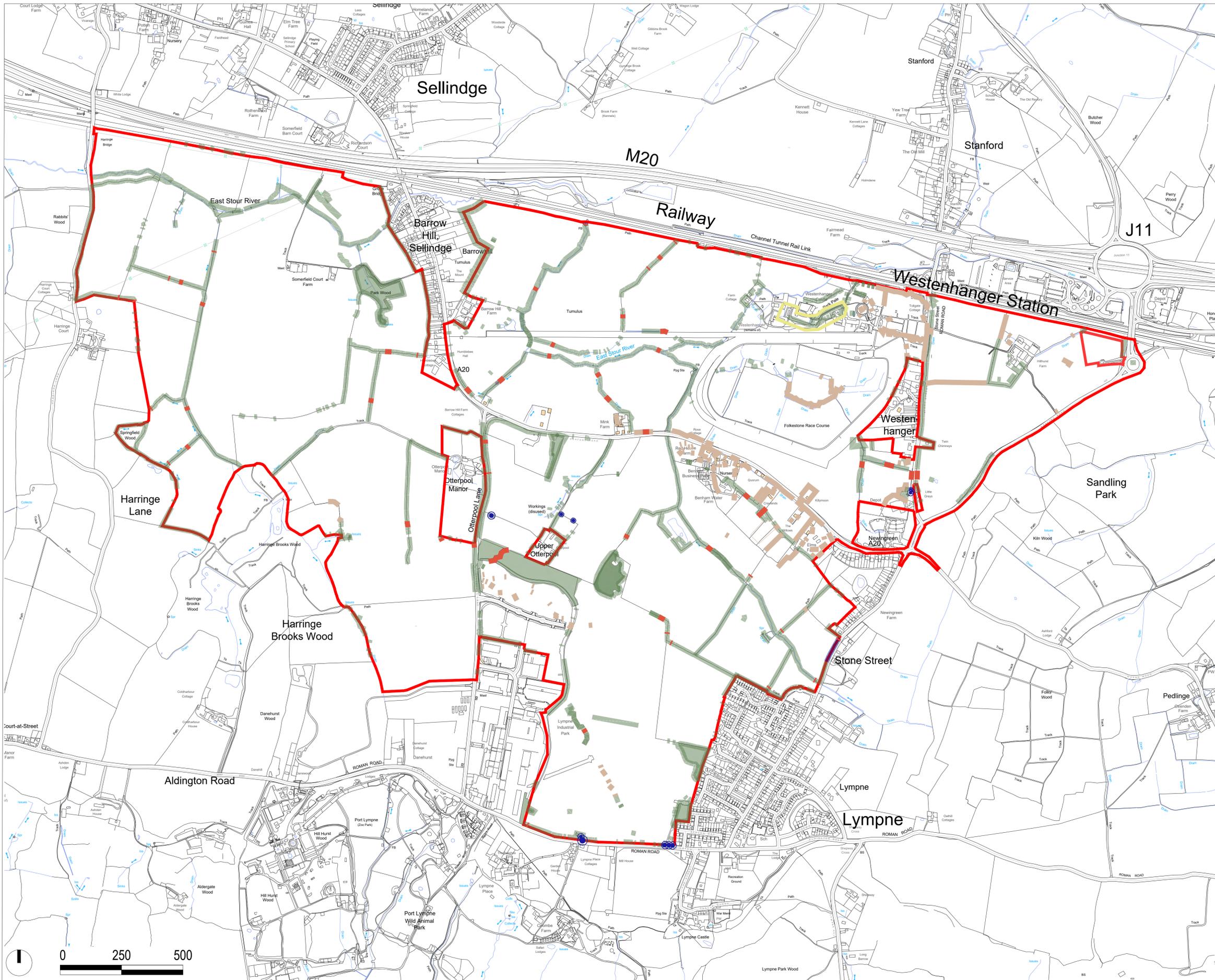
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**Figure 5**  
**Valuation of Habitats Post-Construction**

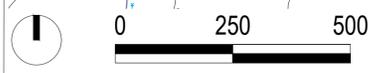


scale	original size	datum	grid
1:15,000	A3	Sx	BNG

## Figure 6: Hedgerow and other vegetation removal



- Existing woodlands, trees, tree belts, hedgerows and vegetation to be retained
  - Existing trees with TPO to be retained
  - Area in front of Westenhanger Castle with trees and vegetation removal subject to further survey and Conservation Management Plan
  - Indicative location of existing trees, hedgerows and vegetation to be removed for movement corridors
- Where parameter plans indicate that movement corridors have possible deviation from the line on the plan, the location and number of the trees to be removed is still subject to later detail design and could be in any location within these limits of deviation.
- Existing woodlands, trees, tree belts, hedgerows and vegetation to be removed
  - Application Red Line Boundary



 <b>OTTERPOOL PARK</b> COUNTRYSIDE · CONNECTED · CREATIVE	<b>CLIENT</b>	<b>REVISIONS</b>	<b>STATUS</b>	<b>SCALE</b>	<b>PROJECT</b>	<b>DRAWING NAME</b>	<b>DRAWING NUMBER</b>
	OTTERPOOL PARK LLP	first issue: 15-05-18 rev A: 04-06-18 rev B: 06-09-18 rev C: 16-10-18 rev D: 23-10-18 rev E: 30-11-18 rev F: 07-12-18 rev G: 12-12-18 rev H: 11-02-19 rev J: 25-10-19 rev K: 03-03-20 rev L: 10-08-20 rev M: 20-08-20 rev N: 03-10-21 rev P: 27-10-21 rev R: 01-11-21	IN SUPPORT	1:7,500 @ A1 1:15,000 @ A3	OTTERPOOL PARK	Existing trees and vegetation retained and removed	OPM(P)1007_YY

**FARRELLS**

**APPENDIX A: Conversion of Baseline Data from Phase 1 to UKHab and condition score**

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
3	1			Parkland Scattered Trees	Woodland and forest - Wood-pasture and parkland	Poor
4	2			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
5	3			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
6	4			Plantation woodland	Woodland and forest - Other woodland; broadleaved	Poor
7	5			Plantation woodland	Woodland and forest - Other woodland; broadleaved	Poor
8	6			Broad-leaved semi-natural woodland	Woodland and forest - Lowland mixed deciduous woodland	Poor
9	7			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
26	8			Mixed plantation woodland	Woodland and forest - Other woodland; mixed	Moderate
27	9			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
28	10			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
31	11			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
37	12			Parkland Scattered Trees	Woodland and forest - Wood-pasture and parkland	Poor
38	13			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate



Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
39	14			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
40	15			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
43	16			Arable	Cropland - Cereal crops	Poor
46	17			Arable	Cropland - Cereal crops	Poor
47	18			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
48	19			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
49	20			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
50	21			Introduced shrub	Urban - Introduced shrub	Poor
55	22			Introduced shrub	Urban - Introduced shrub	Poor
56	23			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
61	24			Plantation woodland	Woodland and forest - Other woodland; broadleaved	Moderate
63	25			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
65	26			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
66	27			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
67	28			Arable	Cropland - Cereal crops	Poor

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
75	29			Arable	Cropland - Cereal crops	Poor
76	30			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
78	31			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
80	32			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
81	33			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Good
83	34			Arable	Cropland - Cereal crops	Poor
84	35			Standing water	Lakes - Ponds (Priority Habitat)	High
86	36			Arable	Cropland - Cereal crops	Poor
88	37			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Good
89	38			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Good
90	39			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Good
94	40			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
106	41			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
107	42			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
108	43			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
109	44			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
110	45			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
111	46			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
113	47			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
115	48			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
116	49			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
119	50			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Poor
121	51			Introduced shrub	Urban - Introduced shrub	Poor
122	52			Introduced shrub	Urban - Introduced shrub	Poor
123	53			Introduced shrub	Urban - Introduced shrub	Poor
124	54			Introduced shrub	Urban - Introduced shrub	Poor

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
125	55			Introduced shrub	Urban - Introduced shrub	Poor
126	56			Introduced shrub	Urban - Introduced shrub	Poor
127	57			Introduced shrub	Urban - Introduced shrub	Poor
128	58			Introduced shrub	Urban - Introduced shrub	Poor
146	59			Mixed plantation woodland	Woodland and forest - Other woodland; mixed	Moderate
158	60			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
159	61			Introduced shrub	Urban - Introduced shrub	Poor
161	62			Standing water	Lakes - Ponds (Priority Habitat)	Moderate
163	63			Arable	Cropland - Cereal crops	Poor
164	64			Standing water	Lakes - Ponds (Priority Habitat)	Moderate
165	65			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
173	66			Arable	Cropland - Cereal crops	Poor
174	67			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
175	68			Arable	Cropland - Cereal crops	Poor
176	69			Arable	Cropland - Cereal crops	Poor
177	70			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
178	71			Arable	Cropland - Cereal crops	Poor

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
180	72			Parkland Scattered Trees	Woodland and forest - Wood-pasture and parkland	Poor
185	73			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
186	74			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
221	75			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
236	76			Arable	Cropland - Cereal crops	Poor
244	77			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
266	78			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
276	79			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
288	80			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
291	81			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
296	82			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
297	83			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
299	84			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
300	85			Arable	Cropland - Cereal crops	Poor
302	86			Bare ground	Urban - Vacant/derelict land/ bareground	Poor

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score	
309	87			Arable	Cropland - Cereal crops	Poor	
319	88			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor	
324	89			Introduced shrub	Urban - Introduced shrub	Poor	
327	90			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate	
328	91			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate	
337	92			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor	
339	93			Standing water	Lakes - Ponds (Priority Habitat)	Moderate	
340	94			Standing water	Lakes - Ponds (Priority Habitat)	Moderate	
345	95			Arable	Cropland - Cereal crops	Poor	
346	96			Arable	Cropland - Cereal crops	Poor	
347	97			Arable	Cropland - Cereal crops	Poor	
348	98			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate	
349	99			Broad-leaved woodland	semi-natural woodland	Woodland and forest - Lowland mixed deciduous woodland	Poor
351	100			Arable	Cropland - Cereal crops	Poor	
360	101			Semi-improved grassland	neutral	Grassland - Other neutral grassland	Moderate
361	102			Semi-improved grassland	neutral	Grassland - Other neutral grassland	Moderate

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
363	103			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Poor
366	104			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
382	105			Standing water	Lakes - Ponds (Non- Priority Habitat)	Poor
383	106			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
389	107			Standing water	Lakes - Ponds (Non- Priority Habitat)	Poor
391	108			Plantation woodland	Woodland and forest - Other woodland; broadleaved	Moderate
409	109			Parkland Scattered Trees	Woodland and forest - Wood-pasture and parkland	Poor
417	110			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
421	111			Introduced shrub	Urban - Introduced shrub	Poor
436	112			Bare ground	Urban - Vacant/derelict land/ bareground	Poor
454	113			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
460	114			Standing water	Lakes - Ponds (Priority Habitat)	High
461	115			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
462	116			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
463	117			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
464	118			Dense/continuous scrub	Lakes - Ponds (Non- Priority Habitat)	Poor

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
472	119			Arable	Cropland - Cereal crops	Poor
486	120			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
489	121			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
490	122			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
491	123			Arable	Cropland - Cereal crops	Poor
493	124			Standing water	Lakes - Ponds (Priority Habitat)	Moderate
519	125			Standing water	Lakes - Ponds (Non- Priority Habitat)	Poor
520	126			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
521	127			Arable	Cropland - Cereal crops	Poor
525	128			Plantation woodland	Woodland and forest - Other woodland; broadleaved	Moderate
527	129			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
541	130			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
542	131			Standing water	Lakes - Ponds (Non- Priority Habitat)	Moderate
548	132			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate
549	133			Broad-leaved woodland	semi-natural Woodland and forest - Lowland mixed deciduous woodland	Moderate



Otterpool Park

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Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
550	134			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Poor
551	135			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
552	136			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
553	137			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Moderate
565	138			Introduced shrub	Urban - Introduced shrub	Poor
566	139			Introduced shrub	Urban - Introduced shrub	Poor
567	140			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
569	141			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
577	142			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
579	143			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
580	144			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
581	145			Semi-improved grassland neutral	Grassland - Other neutral grassland	Moderate
583	146			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
588	147			Broad-leaved woodland semi-natural	Woodland and forest - Lowland mixed deciduous woodland	Good

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Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
610	148			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
615	149			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Poor
616	150			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Poor
619	151			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Poor
620	152			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
621	153			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
622	154			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
623	155			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
624	156			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
625	157			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
626	158			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate

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Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
627	159			Riparian	Woodland and forest - Lowland mixed deciduous woodland	Moderate
628	160			ESP	Sparsely vegetated land - Ruderal/Ephemeral	Poor
629	161			ESP	Sparsely vegetated land - Ruderal/Ephemeral	Poor
630	162			ESP	Sparsely vegetated land - Ruderal/Ephemeral	Poor
631	163			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
632	164			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
633	165			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
634	166			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
635	167			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
636	168			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
637	169			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
638	170			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
639	171			Tall ruderal	Sparsely vegetated land - Ruderal/Ephemeral	Moderate
640	172			Bare ground	Urban - Vacant/derelict land/ bareground	Poor
641	173			Bare ground	Urban - Vacant/derelict land/ bareground	Poor
644	174			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
645	175			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate

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Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
646	176			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
647	177			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
648	178			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
649	179			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
650	180			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
651	181			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
652	182			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
653	183			Introduced shrub	Urban - Introduced shrub	Poor
654	184			Introduced shrub	Urban - Introduced shrub	Poor
655	185			Introduced shrub	Urban - Introduced shrub	Poor
656	186			Introduced shrub	Urban - Introduced shrub	Poor
657	187			Introduced shrub	Urban - Introduced shrub	Poor
658	188			Introduced shrub	Urban - Introduced shrub	Poor
659	189			Introduced shrub	Urban - Introduced shrub	Poor
660	190			Introduced shrub	Urban - Introduced shrub	Poor
661	191			Introduced shrub	Urban - Introduced shrub	Poor
663	192			Introduced shrub	Urban - Introduced shrub	Poor

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Object ID <sup>1</sup>	Calculator reference <sup>2</sup>	tool	row	Phase 1 habitat	UKHab Equivalent	Condition score
666	193			Introduced shrub	Urban - Introduced shrub	Poor
667	194			Introduced shrub	Urban - Introduced shrub	Poor
668	195			Introduced shrub	Urban - Introduced shrub	Poor
669	196			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
670	197			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Moderate
671	198			Arable	Cropland - Cereal crops	Poor
672	199			Arable	Cropland - Cereal crops	Poor
673	200			Arable	Cropland - Cereal crops	Poor
676	201			Dense/continuous scrub	Heathland and shrub - Mixed scrub	Poor
677	202			Semi-improved grassland	neutral Grassland - Other neutral grassland	Moderate
678	203			Semi-improved grassland	neutral Grassland - Other neutral grassland	Moderate
N/A	204			N/A	Grassland - Modified Grassland	Moderate
N/A	205			N/A	Urban - Developed land; sealed surface	N/A

1 Refer to parcel labels in Figure 1

2 Refer to Baseline tab of Calculator Tool (Appendix E)



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## **APPENDIX B: Baseline Condition Assessments**

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UKHab Habitat Type(s)			
Grassland - Modified grassland			
Habitat Description			
<a href="#">See UKHab</a>			
Condition Assessment Criteria		All amenity grassland	All improved grassland
1	There must be 6-8 species per m <sup>2</sup> . Note - if a grassland has 9 or more species per m <sup>2</sup> it should be classified as	0	0
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide	0	0
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with	1	1
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of	1	1
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	0	0
6	Cover of bracken less than 20%.	1	1
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species <sup>1</sup> make up less than 5% of ground cover.	1	1
<b>Condition Assessment Res</b>		<b>4</b>	<b>4</b>
<b>Condition Assessment Score</b>			
criteria including non-	Good (3)		
criteria; OR	Moderate (2)	y	y
Passes 0, 1, 2 or 3 of 7 criteria	Poor (1)		
<b>Notes</b>			
include: Creeping thistle <i>Cirsium arvense</i> , spear thistle <i>Cirsium</i>			



Condition Sheet: GRASSLAND Habitat Type (medium, high & very high distinctiveness)				
UKHab Habitat Type(s)				
Grassland - Lowland calcareous grassland				
Grassland - Lowland dry acid grassland				
Habitat Description				
See UKHab				
NOTE: Tall herb habitat that does not meet the definition of Annex 1 habitat - Tall herb communities (10430) should be recorded as "Other neutral grassland"				
Condition Assessment Criteria		360	361	581
1	The appearance and composition of the vegetation closely matches characteristics of the specific grassland habitat type (see UKHab definition). Wildflowers, sedges and indicator species for the specific grassland habitat type are very clearly and easily visible throughout the sward.	0	0	0
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	1	1	1
3	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	1	1	1
4	Cover of bracken less than 20% and cover of scrub (including bramble) less than 5%.	1	1	1
5	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981). Combined cover of undesirable species <sup>1</sup> and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area.	0	0	0
Condition Assessment Result		3	3	3
Passes 5 of 5 criteria				
Passes 3 or 4 of 5 criteria		Y	Y	Y
Passes 0, 1 or 2 of 5 criteria				
Notes				
<p><b>Footnote 1</b> - Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, creeping buttercup <i>Ranunculus repens</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.</p>				

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)							
UKHab Habitat Type(s)							
Grassland - Modified grassland							
Habitat Description							
<a href="#">See UKHab</a>							
Condition Assessment Criteria		29	147	365	367	531	578
1	There must be 6-8 species per m <sup>2</sup> . Note - if a grassland has 9 or more species per m <sup>2</sup> it should be classified as a moderate distinctiveness grassland habitat type. <b>NB - this criterion is non-negotiable for achieving good condition.</b>	0	1	0	0	0	0
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	1	0	1	1	0	0
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	1	1	1	1	1	1
4	Physical damage evident in less than 5% of total grassland area, such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities.	1	0	1	1	1	1
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	1	1	1	1	1	1
6	Cover of bracken less than 20%.	1	1	1	1	1	1
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species <sup>1</sup> make up less than 5% of ground cover.	1	1	1	1	1	1
<b>Condition Assessment Result</b>		<b>6</b>	<b>5</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>5</b>
Passes 6 or 7 of 7 criteria including non-negotiable criterion 7		Good (3)					
Passes 4 or 5 of 7 criteria; OR		Y	Y	Y	Y		Y
Passes 0, 1, 2 or 3 of 7 criteria						Y	
Notes							
<p><b>Footnote 1</b> - Species considered undesirable for this habitat type include: Creeping thistle <i>Cirsium arvense</i>, spear thistle <i>Cirsium vulgare</i>, curled dock <i>Rumex crispus</i>, broad-leaved dock <i>Rumex obtusifolius</i>, common nettle <i>Urtica dioica</i>, greater plantain <i>Plantago major</i>, white clover <i>Trifolium repens</i>, cow parsley <i>Anthriscus sylvestris</i>.</p>							



Condition Sheet: POND Habitat Type																					
UKHab Habitat Type(s)																					
Lakes - Ponds (priority habitat)																					
Lakes - Ponds (non-priority habitat)																					
Lakes - Temporary lakes, ponds and pools [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]																					
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]																					
Habitat Description																					
See UKHab																					
other than for non-priority ponds, which are those which do not meet either the definition of (i) priority habitat ponds or (ii) ornamental ponds																					
Condition Assessment Criteria																					
applicable to all ponds		23	84 (9)	161 (16)	164 (17)	174 (18)	185 (14)	339 (15a)	340 (15a)	382 (22)	389 (23)	417 (24)	460 (19)	462 (21a)	463 (20)	486 (26)	489 (25)	499 (27)	519 (28)	542 (4)	
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	0	1
2	There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.	0	1	1	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1	0	0
3	Less than 10% of the pond is covered with duckweed or filamentous algae.	1	1	1	0	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1
4	The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
6	There is an absence of non-native plant and animal species <sup>2</sup> .	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1
7	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADDITIONAL CRITERIA - only applicable to non-woodland ponds:																					
8	In non-woodland ponds, plants, be they emergent, submerged or floating (excluding duckweeds) <sup>3</sup> , should cover at least 50% of the pond area that is less than 3 m deep.	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
9	The surface of non-woodland ponds is no more than 50% shaded by woody bankside species.	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	0	1
Condition Assessment Result		Condition Assessment Score																			
If 8 criteria assessed (woodland ponds):		7	9	7	7	6	8	8	8	5	5	6	9	7	7	6	6	6	7	5	7
Passes 7 of 7 criteria			Y										Y								
Passes 5 or 6 of 7 criteria		Y		Y	Y	Y	Y	Y	Y				Y		Y	Y	Y	Y	Y		Y
Passes 0, 1, 2, 3 or 4 of 7 criteria										Y	Y									Y	
If 10 criteria assessed (non-woodland ponds):																					
Passes 9 of 9 criteria		Good (3)																			
Passes 6, 7 or 8 of 9 criteria		Moderate (2)																			
Passes 0, 1, 2, 3, 4 or 5 of 9 criteria		Poor (1)																			
Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.																					
Footnote 2 - Any species included on the <a href="#">Water Framework Directive UKTAG GB High Impact Species List</a> should be absent.																					
Footnote 3 - If the pond is seasonal (i.e. dries out in most summers) then emergent species alone are likely to be found.																					

Condition Sheet: SCRUB Habitat Type	
UKHab Habitat Type	
Heathland and shrub - Blackthorn scrub	
Habitat Description	
See UKHab	
For sea buckthorn scrub see Habitats Directive Annex 1 definition	
Condition Assessment Criteria	
Habitat is representative of UKHab description (where in its natural range). There are at least three woody species, with no one species comprising more than 75% of the cover (except common juniper, sea buckthorn or box, which can be up to 100% cover).	
1	There is a good age range - all of the following are present: seedlings, young shrubs and mature shrubs.
2	The scrub has a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitats.
3	There are clearings, glades or rides present within the scrub, providing sheltered edges.
4	There are clearings, glades or rides present within the scrub, providing sheltered edges.
5	There are clearings, glades or rides present within the scrub, providing sheltered edges.
Condition Assessment Result	
Condition Assessment Score	
Passes 5 of 5 criteria	
Passes 3 or 4 of 5 criteria	
Passes 0, 1 or 2 of 5 criteria	
Notes	
Footnote 1 - Species considered undesirable for this habitat type include: creeping thistle <i>Cirsium arvense</i> , common nettle <i>Urtica dioica</i> , cherry laurel <i>Prunus laurocerasus</i> , snowberry <i>Symphoricarpos</i> spp., buddleia <i>Buddleia</i> spp., cotoneaster <i>Cotoneaster</i> spp., Spanish bluebell <i>Hyacinthoides hispanica</i> (or hybrids).	

	9	31	48	56	65	80	113	244	288	297	299	319	337	348	383	454	461	464	520	567	567	644	645	646	647	648	649	650	651	652	669	670	676		
1	1	1	1	0	1	0	0	0	1	0	1	0	0	1	0	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	1	1	1	1	0	0	1	1	1	1	0	0	1	1	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
4	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Passes 5 of 5 criteria	2	2	2	1	2	1	0	1	2	1	2	0	0	3	1	1	1	2	1	0	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2
Passes 3 or 4 of 5 criteria														Y							Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	
Passes 0, 1 or 2 of 5 criteria	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y	Y													Y		Y

Condition Sheet: URBAN - NON PRIORITY Habitat Type				
UKHab Habitat Type				
Sparsely vegetated land - Ruderal/ephemeral				
Habitat Description				
<a href="#">See UKHab</a>				
Condition Assessment Criteria				
CORE CRITERIA - applicable to all urban habitat types:				
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	628	629	630
		0	0	0
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).			
		1	1	1
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).			
		0	0	0
ADDITIONAL CRITERION - only applicable to <b>Open mosaic on previously developed land</b> habitat type:				
4a	The site shows spatial variation, forming a mosaic of at least four early successional communities (a) to (ii) PLUS bare substrate AND pools: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation			
ADDITIONAL CRITERION - only applicable to <b>Bioswale and SUDS</b> habitat types:				
4b	The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.			
Condition Assessment Result		Condition Assessment Score		
If 3 criteria assessed:				
• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3		Good (3)		
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3		Moderate (2)		
• Passes 0 or 1 of 3 core criteria		Poor (1)		
If 4 criteria assessed:				
• Passes 3 of 3 core criteria; AND • Meets the requirements for good condition within criteria 2 and 3; AND		Good (3)		
• Passes 2 of 3 or 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for good		Moderate (2)		
• Passes 0 or 1 of 4 criteria		Poor (1)		
Notes				

Y Y Y

Condition Sheet: URBAN - NON PRIORITY Habitat Type		
UKHab Habitat Type		
Sparsely vegetated land - Ruderal/ephemeral		
Habitat Description		
<a href="#">See UKHab</a>		
Condition Assessment Criteria		
CORE CRITERIA - applicable to <b>all urban habitat types</b> :		<b>All tall ruderal</b>
1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.	1
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).	0
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	1
ADDITIONAL CRITERION - only applicable to <b>Open mosaic on previously developed land</b> habitat type:		
4a	The site shows spatial variation, forming a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland.	
ADDITIONAL CRITERION - only applicable to <b>Bioswale and SUDS</b> habitat types:		
4b	The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.	
<b>Condition Assessment Result</b>		<b>Condition Assessment Score</b>
If 3 criteria assessed:		2
<ul style="list-style-type: none"> <li>• Passes 3 of 3 core criteria; AND</li> <li>• Meets the requirements for good condition within criteria 2 and 3</li> </ul>		Good (3)
<ul style="list-style-type: none"> <li>• Passes 2 of 3 core criteria; OR</li> <li>• Passes 3 of 3 core criteria but does not meet the requirements for good condition within criteria 2 and 3</li> </ul>		Moderate (2) Y
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 3 core criteria</li> </ul>		Poor (1)
If 4 criteria assessed:		
<ul style="list-style-type: none"> <li>• Passes 3 of 3 core criteria, AND</li> <li>• Meets the requirements for good condition within criteria 2 and 3; AND</li> </ul>		Good (3)
<ul style="list-style-type: none"> <li>• Passes 2 of 3 of 4 criteria, OR</li> <li>• Passes 4 of 4 criteria but does not meet the requirements for good</li> </ul>		Moderate (2)
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 4 criteria</li> </ul>		Poor (1)
<b>Notes</b>		

**Condition Sheet: URBAN - NON PRIORITY Habitat Type**

**UKHab Habitat Type**  
**Sparsely vegetated land - Ruderal/ephemeral**  
**Urban - Allotments**  
**Urban - Bioswale**  
**Urban - Brown roof**  
**Urban - Cemeteries and churchyards** [Use Urban condition sheet as default. Where there are areas of grassland, woodland or scrub above the minimum mappable area, record and assess these as the relevant habitat type]  
**Urban - Extensive green roof**  
**Urban - Façade-bound green wall**  
**Urban - Ground based green wall**  
**Urban - Intensive green roof**  
**Urban - Open mosaic habitats on previously developed land**  
**Urban - Rain garden**  
**Urban - Sustainable urban drainage feature** [in the context of the Biodiversity Metric, this habitat type refers to open SUDS with vegetation and/or open water]  
**Urban - Vacant / derelict land / bare ground**

**Habitat Description**  
[See UKHab](#)

**Condition Assessment Criteria**

**CORE CRITERIA - applicable to all urban habitat types:**

1	Vegetation structure is varied, providing opportunities for insects, birds and bats to live and breed. A single ecotone (i.e. scrub, grassland, herbs) should not account for more than 80% of the total habitat area.
2	There is a diverse range of flowering plant species, providing nectar sources for insects. These species may be either native, or non-native but beneficial to wildlife. NB - To achieve GOOD condition, criterion 2 must be satisfied by native species only (rather than non-natives beneficial to wildlife).
3	Invasive non-native species (Schedule 9 of WCA) cover less than 5% of total vegetated area. NB - To achieve GOOD condition, criterion 3 must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).

**ADDITIONAL CRITERION - only applicable to Open mosaic on previously developed land habitat type:**

4a The site shows spatial variation, forming a mosaic of at least four early successional communities (a) to (h) PLUS bare substrate AND pools. (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland.

**ADDITIONAL CRITERION - only applicable to Bioswale and SUDS habitat types:**

4b The water table is at or near the surface throughout the year. This could be open water or saturation of soil at the surface.

<b>Bare ground</b>				
302	436	640	641	
0	0	0	0	
0	0	0	0	
1	1	1	1	

Condition Assessment Result		Condition Assessment Score
<b>If 3 criteria assessed:</b>		
<ul style="list-style-type: none"> <li>• Passes 3 of 3 core criteria; AND</li> <li>• Meets the requirements for good condition within criteria 2 and 3</li> </ul>	Good (3)	
<ul style="list-style-type: none"> <li>• Passes 2 of 3 core criteria; OR</li> <li>• Passes 3 of 3 core criteria but does not meet the requirements for good</li> </ul>	Moderate (2)	
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 3 core criteria</li> </ul>	Poor (1)	
<b>If 4 criteria assessed:</b>		
<ul style="list-style-type: none"> <li>• Passes 3 of 3 core criteria; AND</li> <li>• Meets the requirements for good condition within criteria 2 and 3; AND</li> <li>• Passes additional criterion 4a or 4b</li> </ul>	Good (3)	
<ul style="list-style-type: none"> <li>• Passes 2 of 3 of 4 criteria; OR</li> <li>• Passes 4 of 4 criteria but does not meet the requirements for good condition within criteria 2 and 3</li> </ul>	Moderate (2)	
<ul style="list-style-type: none"> <li>• Passes 0 or 1 of 4 criteria</li> </ul>	Poor (1)	

Y	Y	Y	Y
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**Notes**



Condition Sheet: WOODLAND Habitat Type									
UKHab Habitat Type(s)									
Woodland and forest - Lowland beech and yew woodland									
Habitat Description									
<a href="#">See UKHab</a>									
Condition Assessment Criteria									
Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	6	7	61	391	525	
1	Age distribution of trees <sup>1</sup>	Three age classes present	Two age classes present	One age class present	1	1	1	1	1
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland <sup>2</sup>	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3	3	3	3	3
3	Invasive plant species <sup>3</sup>	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3	3	3	3	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	3	3	2	1	2
5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3	3	3	3	3
6	Open space within woodland <sup>4</sup>	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	2	2	2	1	1
7	Woodland regeneration <sup>5</sup>	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2	2	2	1	1
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and/or any high risk pest or disease present	3	3	3	3	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community					
10	Woodland vertical structure <sup>6</sup>	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	1	1	1	1	1
11	Veteran trees <sup>7</sup>	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1	1	1	1	1
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	1	1	1	1	1
13	Woodland disturbance <sup>8</sup>	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	3	3	3	2	3
<b>Total score (out of a possible 39)</b>				<b>26</b>	<b>26</b>	<b>25</b>	<b>21</b>	<b>23</b>	
Condition Assessment Result				Condition Assessment Score					
Total score >32 (33 to 39)				Good (3)					
Total score 26 to 32				Moderate (2)					
Total score <26 (13 to 25)				Poor (1)					
Notes									
<p><b>Footnote 1</b> - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and &gt;150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees.</p> <p><b>Footnote 2</b> - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where &gt;20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.</p> <p><b>Footnote 3</b> - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage <i>Lysichiton americanus</i>; Himalayan balsam <i>Impatiens glandulifera</i>; Japanese knotweed <i>Fallopia japonica</i>; Cherry Laurel <i>Prunus laurocerasus</i>; Shalton <i>Gaultheria shallon</i>; Snowberry <i>Symphoricarpos albus</i>; Variegated yellow archangel <i>Lamiastrum galeobdolon subsp. argentatum</i>; and Rhododendron <i>Rhododendron ponticum</i>.</p> <p><b>Footnote 4</b> - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees.</p> <p><b>Footnote 5</b> - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.</p> <p><b>Footnote 6</b> - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer.</p> <p><b>Footnote 7</b> - See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:</p> <ol style="list-style-type: none"> <li>1. Rot sites associated with wounds which are decaying &gt;400 cm<sup>2</sup>;</li> <li>2. Holes and water pockets in the trunk and mature crown &gt;5 cm diameter;</li> <li>3. Dead branches or stems &gt;15 cm diameter;</li> <li>4. Any hollowing in the trunk or major limbs;</li> <li>5. Fruit bodies of fungi known to cause wood decay.</li> </ol> <p><b>Footnote 8</b> - See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery or animal poaching; litter.</p>									



Condition Sheet: WOODLAND Habitat Type						
UKHab Habitat Type(s)						
Woodland and forest - Lowland beech and yew woodland						
Woodland and forest - Lowland mixed deciduous woodland						
Woodland and forest - Native pine woodlands						
Woodland and forest - Other coniferous woodland						
Woodland and forest - Other Scot's pine woodland						
Woodland and forest - Other woodland; broadleaved						
Woodland and forest - Other woodland; mixed						
Woodland and forest - Upland birchwoods						
Woodland and forest - Upland mixed ashwoods						
Woodland and forest - Upland oakwood						
Woodland and forest - Wet woodland						
Habitat Description						
<a href="#">See UKHab</a>						
Condition Assessment Criteria						
Indicator		Good (3 points)	Moderate (2 points)	Poor (1 point)	26	146
1	Age distribution of trees <sup>1</sup>	Three age classes present	Two age classes present	One age class present	1	1
2	Wild, domestic and feral herbivore damage	No significant browsing damage evident in woodland <sup>2</sup>	Evidence of significant browsing pressure is present in 40% or less of whole woodland	Evidence of significant browsing pressure is present in 40% or more of whole woodland	3	3
3	Invasive plant species <sup>3</sup>	No invasive species present in woodland	Rhododendron or laurel not present, other invasive species < 10% cover	Rhododendron or laurel present, or other invasive species > 10% cover	3	3
4	Number of native tree species	Five or more native tree or shrub species found across woodland parcel	Three to four native tree or shrub species found across woodland parcel	None to two native tree or shrub species across woodland parcel	3	3
5	Cover of native tree and shrub species	> 80% of canopy trees and >80% of understory shrubs are native	50-80% of canopy trees and 50-80% of understory shrubs are native	< 50% of canopy trees and <50% of understory shrubs are native	3	3
6	Open space within woodland <sup>4</sup>	10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply	21- 40% of woodland has areas of temporary open space	More than 40% of woodland has areas of temporary open space	3	3
7	Woodland regeneration <sup>5</sup>	All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth	One or two classes only present in woodland	No classes or coppice regrowth present in woodland	2	2
8	Tree health	Tree mortality less than 10%, no pests or diseases and no crown dieback	11% to 25% mortality and/or crown dieback or low risk pest or disease present	Greater than 25% tree mortality and or any high risk pest or disease present	3	3
9	Vegetation and ground flora	Ancient woodland flora indicators present	Recognisable NVC plant community present	No recognisable NVC community	1	1
10	Woodland vertical structure <sup>6</sup>	Three or more storeys across all survey plots or a complex woodland	Two storeys across all survey plots	One or less storey across all survey plots	1	1
11	Veteran trees <sup>7</sup>	Two or more veteran trees per hectare	One veteran tree per hectare	No veteran trees present in woodland	1	1
12	Amount of deadwood	50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps	1	1
13	Woodland disturbance <sup>8</sup>	No nutrient enrichment or damaged ground evident	Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground	More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground	2	2
<b>Total score (out of a possible 39)</b>					<b>27</b>	<b>27</b>
Condition Assessment Result			Condition Assessment Score			
Total score >32 (33 to 39)			Good (3)			
Total score 26 to 32			Moderate (2)			
Total score <26 (13 to 25)			Poor (1)			
Notes						
<p><b>Footnote 1</b> - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and &gt;150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees.</p> <p><b>Footnote 2</b> - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where &gt;20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed.</p> <p><b>Footnote 3</b> - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage <i>Lysichiton americanus</i>; Himalayan balsam <i>Impatiens glandulifera</i>; Japanese knotweed <i>Fallopia japonica</i>; Cherry Laurel <i>Prunus laurocerasus</i>; Shallow <i>Gaultheria shallon</i>; Snowberry <i>Symphoricarpos albus</i>; Variegated yellow archangel <i>Lamium galeobdolon subsp. argentatum</i>; and Rhododendron <i>Rhododendron ponticum</i>.</p> <p><b>Footnote 4</b> - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees.</p> <p><b>Footnote 5</b> - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening.</p> <p><b>Footnote 6</b> - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer.</p> <p><b>Footnote 7</b> - See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:</p> <ol style="list-style-type: none"> <li>1. Rot sites associated with wounds which are decaying &gt;400 cm<sup>2</sup>;</li> <li>2. Holes and water pockets in the trunk and mature crown &gt;5 cm diameter;</li> </ol>						

Condition Sheet: WOOD-PASTURE & PARKLAND Habitat Type					
UKHab Habitat Type(s)					
Woodland and forest - Wood-pasture and parkland					
Habitat Description					
<a href="#">See UKHab</a>					
Condition Assessment Criteria					
		3	37	180	409
1	Presence of ancient <sup>1</sup> and / or veteran <sup>2</sup> trees.	0	0	0	0
2	Trees are of a range of different ages to ensure replacement. Three age classes are present and must include at least one of the following: mature <sup>3</sup> , late-mature <sup>3</sup> , ancient or veteran trees.	0	0	0	0
3	Presence of standing and / or fallen deadwood: <ul style="list-style-type: none"> <li>• Wood-pasture - All ancient and veteran trees have standing deadwood, large dead branches, stems and stumps associated with them.</li> <li>• Parkland - 80% of ancient and veteran trees have standing deadwood, large dead branches, stems and stumps associated with them.</li> </ul>	0	0	0	0
4	There is little or no evidence of an adverse impact on tree health by anthropogenic activities, livestock or wild animals, or pests or diseases (e.g. no evidence of poaching, nettles, ground compaction, bare ground under trees or grazing damage to bark and roots).	1	1	1	1
5	Ground cover comprises semi-natural grassland or heathland.	0	0	0	0
6	Grassland or heathland habitat is subject to an appropriate management regime: <ul style="list-style-type: none"> <li>• Grassland - Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.</li> <li>• Heathland - There is a range of age classes of heather present, with the following proportions: pioneer heather 10-40%, building/mature heather 20-80%, degenerate heather &lt;30% and dead heather &lt;10%.</li> </ul>	0	0	0	0
<b>Condition Assessment Result</b>		<b>Condition Assessment Score</b>			
Passes 6 of 6 criteria		Good (3)			
Passes 4 or 5 of 6 criteria		Moderate (2)			
Passes 0, 1, 2 or 3 of 6 criteria		Poor (1)			
		1	1	1	1
		Y	Y	Y	Y
<b>Notes</b>					
<p><b>Footnote 1</b> - Ancient trees are exceptionally valuable. Attributes can include: its great age in comparison with other trees of the same species; size, especially very wide trunk; condition; biodiversity value as a result of significant wood decay and the habitat created from the ageing process; and cultural and heritage value. Very few trees of any species become ancient. Ancient trees can be classified using the following girth guide at 1.5 m from the ground:</p> <ul style="list-style-type: none"> <li>• &gt;2.5 m for field maple, rowan, yew, birch, holly and other smaller tree species;</li> <li>• &gt;4 m for oaks, ash, Scot's pine, alder;</li> <li>• &gt;4.5 m for sycamore, lime, horse chestnut, sweet chestnut, elm species, poplar species, beech, willows, other pines and exotics.</li> </ul> <p><b>Footnote 2</b> - All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:</p> <ol style="list-style-type: none"> <li>1. Rot sites associated with wounds which are decaying &gt;400 cm<sup>2</sup>;</li> <li>2. Holes and water pockets in the trunk and mature crown &gt;5 cm diameter;</li> <li>3. Dead branches or stems &gt;15 cm diameter;</li> <li>4. Any hollowing in the trunk or major limbs;</li> <li>5. Fruit bodies of fungi known to cause wood decay.</li> </ol> <p><b>Footnote 3</b> - Mature trees are close to their full height and crown size, these dimensions being determined by species and site factors. Late-mature trees are still close to their full height and crown size while main-stem diameter (which by now is large) increases more slowly.</p>					

## APPENDIX C: Hedgerow condition assessment information

Table 30: Details of the baseline hedgerow condition assessment

Condition Criteria	Aspect	Requirement	Description	Native Species Rich Hedgerow	Native Hedgerow intact	Native Species Rich Hedgerow	Native Hedgerow with trees	Native Species Rich Hedgerow	Native Hedgerow with trees +ditch	Native Species Rich Hedgerow	Native Hedgerow + ditch	Native hedgerow defunct
A1.	Height	>1.5 m average along length	<p>The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is &gt; 1.5 m height).</p>	1	1	1	1	1	1	1	1	1
A2.	Width	>1.5 m average along length	<p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (e.g., blackthorn suckers) are only included in the width estimate when they &gt;0.5 m in height.</p> <p>Laid, coppiced, cut and newly</p>	1	1	1	1	1	1	1	1	1

Condition Criteria	Aspect	Requirement	Description	Native Species Rich Hedgerow	Native Hedgerow intact	Native Species Rich Hedgerow	Native Hedgerow with trees	Native Species Rich Hedgerow	Native Hedgerow with trees +ditch	Native Species Rich Hedgerow	Native Hedgerow + ditch	Native hedgerow defunct
			planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice <sup>4</sup> ).									
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.  Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	1	1	1	1	1	1	1	1	1
B2.	Gap - hedge canopy continuity	· Gaps make up <10% of total length and · No canopy gaps >5 m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).  Access points and gates contribute to the overall gappiness but are not subject to the >5 m criterion (as this is the typical size of a gate).	1	1	1	1	1	1	1	1	0

Condition Criteria	Aspect	Requirement	Description	Native Species Rich Hedgerow	Native Hedgerow intact	Native Species Rich Hedgerow	Native Hedgerow with trees	Native Species Rich Hedgerow	Native Hedgerow with trees +ditch	Native Species Rich Hedgerow	Native Hedgerow + ditch	Native hedgerow defunct
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · measured from outer edge of hedgerow, and · is present on one side of the hedge (at least)	<p>This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).</p> <p>Access points and gates contribute to the overall gappiness but are not subject to the &gt;5 m criterion (as this is the typical size of a gate).</p>	1	1	1	1	1	1	1	1	0
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles ( <i>Urtica</i> spp.), cleavers ( <i>Galium aparine</i> ) and docks ( <i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	0	0	0	0	0	0	0	0	0

Condition Criteria	Aspect	Requirement	Description	Native Species Rich Hedgerow	Native Hedgerow intact	Native Species Rich Hedgerow	Native Hedgerow with trees	Native Species Rich Hedgerow	Native Hedgerow with trees +ditch	Native Species Rich Hedgerow	Native Hedgerow + ditch	Native hedgerow defunct
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website.	1	1	1	1	1	1	1	1	1
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.  This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedge cutting).	1	1	1	1	1	1	1	1	1
E1.	Tree age	At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at	This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity.			1	1	1	1			



Otterpool Park  
 Environmental Statement Appendix 7.21: Biodiversity Net Gain

Condition Criteria	Aspect	Requirement	Description	Native Species Rich Hedgerow	Native Hedgerow intact	Native Species Rich Hedgerow	Native Hedgerow with trees	Native Species Rich Hedgerow	Native Hedgerow with trees +ditch	Native Species Rich Hedgerow	Native Hedgerow + ditch	Native hedgerow defunct
		least 2/3 expected fully mature height for the species.										
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.			1	1	1	1			

## **APPENDIX D: Post Development Land Use Typology Breakdown**

Polygon No.	Polygon type	Area in Sq. mt	Area in Ha	Habitat Grouping	Habitat Breakdown	Comments
0	Existing Woods Outside	225.95	0.0226	Existing habitat	See baseline	Leave as is, not being impacted or enhanced
1	Proposed Potential Accessibility	4204.45	0.4204	Zero value parcels	100% developed land; sealed surface	No soft landscaping proposed
2	Proposed High School	6557.46	0.6557	Proposed school area	80% developed land; sealed surface 10% Modified grassland - Moderate condition 5% ornamental shrubs 5% Urban trees - Moderate condition	All scalped amenity type grassland has been cut out for playing fields, the grassland assumed to be a bit less intensively managed. Moderate condition potentially viable for Urban trees if species mostly native
3	Proposed School Area	9997.60	0.9998	Proposed school area	80% developed land; sealed surface 10% Modified grassland - Moderate condition 5% ornamental shrubs 5% Urban trees - Moderate condition	All scalped amenity type grassland has been cut out for playing fields, the grassland assumed to be a bit less intensively managed. Moderate condition potentially viable for Urban trees if species mostly native
4	Proposed School Area	12310.43	1.2310	Proposed school area	80% developed land; sealed surface 10% Modified grassland - Moderate condition 5% ornamental shrubs 5% Urban trees - Moderate condition	All scalped amenity type grassland has been cut out for playing fields, the grassland assumed to be a bit less intensively managed. Moderate condition potentially viable for Urban trees if species mostly native
5	Proposed School Area	14781.17	1.4781	Proposed school area	80% developed land; sealed surface 10% Modified grassland - Moderate condition 5% ornamental shrubs 5% Urban trees - Moderate condition	All scalped amenity type grassland has been cut out for playing fields, the grassland assumed to be a bit less intensively managed. Moderate condition potentially viable for Urban trees if species mostly native
6	Proposed School Area	7047.14	0.7047	Proposed school area	80% developed land; sealed surface 10% Modified grassland - Moderate condition 5% ornamental shrubs 5% Urban trees - Moderate condition	All scalped amenity type grassland has been cut out for playing fields, the grassland assumed to be a bit less intensively managed. Moderate condition potentially viable for Urban trees if species mostly native
7	Proposed Suds Water Management	9949.41	0.9949	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Good condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
8	Proposed Suds Water Management	2740.56	0.2741	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Good condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
9	Proposed Suds Water Management	2717.11	0.2717	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Good condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
10	Proposed Suds Water Management	15092.26	1.5092	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Good condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
11	Proposed Development Areas.	17960.69	1.7961	Proposed development areas	60% developed land; sealed surface 30% vegetated gardens 5% ornamental scrub 5% urban trees - Moderate	This is an assumed average across the various types of development area, if it looks like it may be a deciding factor on meeting the net gain threshold it can be refined
12	Proposed Burial Ground	23364.02	2.3364	Proposed burial ground	5% developed land; unsealed surface 65% other woodland broadleaved - Moderate condition 30% other neutral grassland - good condition	Seems to be a variety of different designs of woodland burial. Some are almost entirely woodland while others are quite open. I've gone for a theoretical design that incorporates areas of denser woodland and more open wood-pasture type habitat. I've assumed moderate condition for the woodland as there will need to be a certain degree of "presentability" and access needed and this would preclude several of the natural features required for good condition in woodland. Land use means lowland meadow likely not viable but the low access levels mean that Good condition of other neutral grassland should be fine
13	Proposed Allotments	20872.99	2.0873	Allotments	100% allotments moderate condition	I'd say Moderate is best we can hope for if we're being conservative, potential for passing all criteria there but lack of control over this land makes maintaining it difficult
14	Proposed Allotments	15726.68	1.5727	Allotments	100% allotments moderate condition	I'd say Moderate is best we can hope for if we're being conservative, potential for passing all criteria there but lack of control over this land makes maintaining it difficult
15	Proposed Allotments	10482.67	1.0483	Allotments	100% allotments moderate condition	I'd say Moderate is best we can hope for if we're being conservative, potential for passing all criteria there but lack of control over this land makes maintaining it difficult
16	Proposed Allotments	5148.25	0.5148	Allotments	100% allotments moderate condition	I'd say Moderate is best we can hope for if we're being conservative, potential for passing all criteria there but lack of control over this land makes maintaining it difficult
17	Proposed Sport Field	7466.92	0.7467	Proposed sport field	100% Modified grassland - Poor condition	Would be scalped amenity, no better than poor possible
18	Proposed Suds Hatch	2912.28	0.291228	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Moderate condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
19	Proposed Suds Hatch	2456.52	0.2457	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Moderate condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
20	Proposed Suds Hatch	1867.25	0.1867	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Moderate condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
21	Proposed Suds Hatch	2534.37	0.2534	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Moderate condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out
22	Proposed Suds Hatch	820.09	0.0820	SUDs	15% Other neutral grassland - Good condition 40% Lowland meadow - Good condition 5% Modified grassland - Moderate condition 10% Mixed scrub - Moderate condition 5% developed land; sealed surface 10% Other woodland; broadleaved - Moderate condition 5% reedbeds - Good condition 10% Ponds (Priority habitat) - Good condition	A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out

























































































































					<p>15% Other neutral grassland - Good condition  40% Lowland meadow - Good condition  5% Modified grassland - Good condition  10% Mixed scrub - Moderate condition  5% developed land; sealed surface  10% Other woodland; broadleaved - Moderate condition  5% reedbeds - Good condition  10% Ponds (Priority habitat) - Good condition</p>	<p>A variety of grassland types has been chosen to account for differing levels of access pressure, good condition is achievable for all of these under appropriate management  Any mixed scrub and woodland provided would likely be fairly patchy and not allow the parcels to meet all the criteria required for Good condition  Most, if not all, of the ponds in these SUDs would be away from commonly accessed areas and so good condition possible under appropriate management  Good condition achievable for reedbeds in theory but moderate may be more likely, have put good for now but may change depending on how calcs come out</p>
2651	Proposed Suds Hatch	3873.17	0.3873	SUDs		
2652	Proposed Potential Accessibility	88712.44	8.8712	Zero value parcels	100% developed land; sealed surface	No soft landscaping proposed
2653	Existing Water Area / Proposed River Park	16170.46	1.6170	Wetlands stormwater	29% Ponds (Priority habitat) - Good condition 19% Lowland meadow - Good condition 52% Baseline	See Brandon's drawings and the various emails for breakdown
2654	Existing Water Pond	1304.85	0.1305	Existing habitat	See baseline	Leave as is, not being impacted or enhanced
2655	Proposed Potential Accessibility	3259.91	0.3260	Zero value parcels	100% developed land; sealed surface	No soft landscaping proposed
2656	Proposed General Green infrastructure	213.31	0.0213	Misc GI	<p>80% other neutral - Moderate condition  5% Developed land; sealed surface  5% Scrub - Moderate condition  5% Modified grassland - Poor condition  5% Urban trees - Moderate condition</p>	Assumed breakdown to fill out remaining GI polygons, will be made for firm at detailed design stage

Habitat grouping	Area	Component habitats	Component percentage	Component Area	Biodiversity Value	BU/HA Total	BU/HA Individual
Allotments	9.2096	Allotments - Moderate condition	100.00%	9.2096	35.5489335	3.86	3.86
		Developed land; sealed surface	5.00%	0.6409	0	0.00	0.00
Castle park	12.8177	Other woodland; broadleaved - Moderate condition	10.00%	1.2818	6.91045246	5.39	5.39
		Modified grassland - Moderate condition	45.00%	5.7679	20.00740275	4.98	3.47
		Other neutral grassland - Moderate condition	30.00%	3.8453	28.31714403	7.36	7.36
		Mixed scrub - Moderate condition	10.00%	1.2818	8.580952735	6.69	6.69
Country park	19.5812	Developed land; sealed surface	5.00%	0.9791	0	0.00	0.00
		Other woodland; broadleaved - Moderate condition	40.00%	7.8325	42.22763836	5.39	5.39
		Mixed scrub - Moderate condition	15.00%	2.9372	19.66333089	5.94	6.69
		Other neutral grassland - Good condition	20.00%	3.9162	36.2084721	9.24	9.24
		Modified grassland - Good condition	20.00%	3.9162	18.31098531	4.68	4.68
		Baseline	100.00%	30.0344	385.1472655	12.82	12.82
Existing habitat	30.0344	Other neutral grassland - Moderate condition	40.00%	5.2041	38.32511531	7.36	7.36
		Developed land; sealed surface	5.00%	0.6505	0	0.00	0.00
Lympe Airfield park	13.0103	Mixed scrub - Moderate condition	5.00%	0.6505	4.35494467	7.42	6.69
		Modified grassland - Moderate condition	5.00%	0.6505	2.35644791	3.47	3.47
		Other neutral grassland - Good condition	40.00%	5.2041	48.10532126	9.24	9.24
		Other woodland; broadleaved - Moderate condition	5.00%	0.6505	3.507143977	5.39	5.39
Misc GI	64.9092	Other neutral grassland - Moderate condition	80.00%	51.9274	196.5157	3.59	3.59
		Developed land; sealed surface	5.00%	3.2455	0	0.00	0.00
		Mixed scrub - Moderate condition	5.00%	3.2455	21.7366255	3.65	6.70
		Modified grassland - Moderate condition	5.00%	3.2455	11.2635573	3.47	3.47
Proposed burial ground	2.3364	Other woodland; broadleaved - Moderate condition	5.00%	0.1168	0	0.00	0.00
		Other neutral grassland - Good condition	80.00%	1.8691	8.187634578	6.28	5.39
		Developed land; sealed surface	45.00%	96.2845	0	0.00	0.00
		Vegetated garden	30.00%	64.1897	123.8860256	1.93	1.93
Proposed development areas	213.9655	Mixed scrub - Moderate condition	5.00%	10.6983	71.62098918	6.69	6.69
		Intensive green roof - Good condition	10.00%	21.3966	132.515178	2.13	6.19
		Rain garden - Poor condition	5.00%	10.6983	43.3807821	3.95	3.95
		Urban trees - Moderate condition	10.00%	21.3966	71.95548244	3.36	3.36
		Modified grassland - Moderate condition	5.00%	10.6983	37.10932082	3.47	3.47
		Developed land; sealed surface	65.00%	9.3751	0	0.00	0.00
Proposed school area	14.4232	Modified grassland - Moderate condition	10.00%	1.4423	5.00301532	3.47	3.47
		Introduced shrub	5.00%	0.7212	1.391841884	1.74	1.93
		Intensive green roof - Good condition	20.00%	2.8846	16.24333664	5.63	5.63
		Urban trees - Moderate condition	5.00%	0.7212	2.42528845	3.36	3.36
Proposed sport field	27.7937	Modified grassland - Poor condition	100.00%	27.7937	53.64177159	1.93	1.93
		Other woodland; broadleaved - Good condition	100.00%	44.1609	194.8006612	4.41	4.41
Proposed woodland	44.1609	Other neutral grassland - Good condition	15.00%	6.6241	75.45736743	9.25	9.25
		Lowland meadow - Good condition	40.00%	17.6648	116.1860989	5.34	5.34
SUDs	54.4120	Modified grassland - Good condition	5.00%	2.7206	12.7259709	4.68	4.68
		Mixed scrub - Moderate condition	10.00%	5.4412	36.43257599	6.70	6.70
		Developed land; sealed surface	10.00%	5.4412	0	0.00	0.00
		Other woodland; broadleaved - Moderate condition	10.00%	5.4412	29.3405024	5.39	5.39
		Reedbeds - Good condition	5.00%	2.7206	21.39973512	7.87	7.87
		Ponds (Priority habitat) - Good condition	10.00%	5.4412	61.16042455	11.61	11.61
Wetlands stormwater	18.6125	Ponds (Priority habitat) - Good condition	25.00%	4.6531	54.0060647	11.61	11.61
		Lowland meadow - Good condition	19.00%	3.5364	18.87517899	5.34	5.34
		Modified grassland - Good condition	56.00%	10.4230	234.4156132	21.55	21.55
		Baseline	14.00%	1.8590	21.99307449	11.61	11.61
Wetlands wastewater	13.5359	Lowland meadow - Good condition	58.00%	7.8508	41.90334943	6.92	6.92
		Reedbeds - Good condition	28.00%	3.7901	29.80719592	7.86	7.86
Zero value parcels	50.5318	Developed land; sealed surface	100.00%	50.5318	0	0.00	0.00

Component habitats	Total area
Allotments - Moderate condition	9.2096
Baseline	40.4574
Developed land; sealed surface	164.5447
Introduced shrub	0.7212
Lowland meadow - Good condition	33.1520
Mixed scrub - Moderate condition	24.2544
Modified grassland - Good condition	6.6368
Modified grassland - Moderate condition	21.8045
Modified grassland - Poor condition	27.7937
Other neutral grassland - Good condition	17.9851
Other neutral grassland - Moderate condition	60.9768
Other woodland; broadleaved - Good condition	44.1609
Other woodland; broadleaved - Moderate condition	15.9701
Ponds (Priority habitat) - Good condition	11.9894
Reedbeds - Good condition	6.5107
Urban trees - Moderate condition	22.1277
Vegetated garden	64.1897
Rain garden - Poor condition	10.6983
Intensive green roof - Good condition	24.25119659

A comparable development (Northstowe, Cambridgeshire) had a minimum of 20 urban trees planted per ha of development. Which works out as approximately 10% of the area using a medium tree on the street tree helper. As Otterpool is a garden town and the GI strategy includes numerous commitments to street tree planting it is considered that this is a precautionary estimate of the street trees provided

## APPENDIX E: Post development land use typology descriptions

Allotments								
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Allotments	100%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	1	3.86	
Total	100%	N/A	N/A	N/A	N/A	N/A	3.86	

Castle Park								
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Developed land; sealed surface	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0	
Other woodland; broadleaved	10.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39	
Modified grassland	45.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47	
Other grassland neutral	30.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	5	7.36	
Mixed scrub	10.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69	
Total	100%	N/A	N/A	N/A	N/A	N/A	4.98	

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Country Park									
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha		
Developed land; sealed surface	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00		
Other woodland; broadleaved	40.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39		
Mixed scrub	15.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69		
Other neutral grassland	20.00%	Medium	Good	Location ecologically desirable but not in local strategy	Low	10	9.24		
Modified grassland	20.00%	Low	Good	Area/compensation not in local strategy/ no local strategy	Low	7	4.68		
Total	100%	N/A	N/A	N/A	N/A	N/A	5.94		

Lympe Airfield Park									
BM 3.0	Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
	Other grassland	neutral	40.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	5	7.36
	Developed land; sealed surface		5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00
	Mixed scrub		5.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69
	Modified grassland		5.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47
	Other grassland	neutral	40.00%	Medium	Good	Location ecologically desirable but not in local strategy	Low	10	9.24
	Other woodland; broadleaved		5.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39
	Total		100%	N/A	N/A	N/A	N/A	N/A	7.42

Misc GI									
BM 3.0 Typologies	Habitat Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Other grassland	neutral	80.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	5	3.59	
Developed sealed surface	land;	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00	
Mixed scrub		5.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69	
Modified grassland		5.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47	
Other broadleaved	woodland;	5.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39	
Total		100%	N/A	N/A	N/A	N/A	N/A	3.65	

Proposed Burial Ground									
BM 3.0 Typologies	Habitat Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Developed sealed surface	land;	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00	

Otterpool Park  
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Other woodland; broadleaved	30.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39
Other neutral grassland	65.00%	Medium	Good	Location ecologically desirable but not in local strategy	Low	10	9.24
Total	100%	N/A	N/A	N/A	N/A	N/A	6.28

Proposed Development Areas								
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Developed land; sealed surface	45.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00	
Vegetated garden	30.00%	Low	Poor	Area/compensation not in local strategy/ no local strategy	Low	1	1.93	
Mixed scrub	5.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69	
Intensive green roof	10.00%	Medium	Good	Location ecologically desirable but not in local strategy	Medium	10	6.19	
Rain Garden	5.00%	Low	Moderate	Location ecologically desirable but not in local strategy	Low	3	3.95	
Urban trees	10.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	27	3.36	
Modified grassland	5.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47	

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Total	110%	N/A	N/A	N/A	N/A	N/A	1.95
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Proposed School Areas								
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
Developed land; sealed surface	65.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00	
Modified grassland	10.00%	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Low	4	3.47	
Introduced shrub	5.00%	Low	Poor	Area/compensation not in local strategy/ no local strategy	Low	1	1.93	
Intensive green roof	20.00%	Medium	Good	Location ecologically desirable but not in local strategy	Medium	10	5.63	
Urban trees	5.00%	Medium	Moderate	Location ecologically desirable but not in local strategy	Low	27	3.36	
Total	105%	N/A	N/A	N/A	N/A	N/A	1.74	

Proposed Sport Field



Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Modified grassland	100.00%	Low	Poor	Area/compensation not in local strategy/ no local strategy	Low	1	1.93
Total	100%	N/A	N/A	N/A	N/A	N/A	1.93

Proposed Woodland							
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Other woodland; broadleaved	100%	Medium	Good	Within area formally identified in local strategy	Low	30+	4.41
Total	100%	N/A	N/A	N/A	N/A	N/A	4.41

SUDs									
BM 3.0	Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha	
	Other grassland	15.00%	Medium	Good	Location ecologically desirable but not in local strategy	Low	10	9.24	
	Lowland meadow	40.00%	Very High	Good	Within area formally identified in local strategy	High	15	5.34	
	Modified grassland	5.00%	Low	Good	Area/compensation not in local strategy/ no local strategy	Low	7	4.68	
	Mixed scrub	10.00%	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Low	5	6.69	
	Developed land; sealed surface	5.00%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00	
	Other woodland; broadleaved	10.00%	Medium	Moderate	Within area formally identified in local strategy	Low	15	5.39	

Otterpool Park  
Environmental Statement Appendix 7.21: Biodiversity Net Gain

Reedbeds		5.00%	High	Good	Area/compensation not in local strategy/ no local strategy	Medium	12	7.86
Ponds habitat)	(Priority	10.00%	High	Good	Within area formally identified in local strategy	Medium	5	11.61
Total		100%	N/A	N/A	N/A	N/A	N/A	6.52

Wetlands stormwater

BM 3.0 Typologies Present	Habitat Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Ponds habitat)	(Priority	25.00%	High	Good	Within area formally identified in local strategy	Medium	5	11.61
Lowland meadow		19.00%	Very High	Good	Within area formally identified in local strategy	High	15	5.34
Baseline		56.00%	N/A	N/A	N/A	N/A	N/A	21.55
Total		100%	N/A	N/A	N/A	N/A	N/A	15.98

Wetlands Wastewater

Otterpool Park

Environmental Statement Appendix 7.21: Biodiversity Net Gain

BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Ponds (Priority habitat)	14.00%	High	Good	Within area formally identified in local strategy	Medium	5	11.61
Lowland meadow	58.00%	Very High	Good	Within area formally identified in local strategy	High	15	5.34
Reedbeds	28.00%	High	Good	Area/compensation not in local strategy/ no local strategy	Medium	12	7.86
Total	100%	N/A	N/A	N/A	N/A	N/A	6.92

Wetlands Wastewater							
BM 3.0 Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
Ponds (Priority habitat)	14.00%	High	Good	Within area formally identified in local strategy	Medium	5	11.61
Lowland meadow	58.00%	Very High	Good	Within area formally identified in local strategy	High	15	5.34
Reedbeds	28.00%	High	Good	Area/compensation not in local strategy/ no local strategy	Medium	12	7.86
Total	100%	N/A	N/A	N/A	N/A	N/A	6.92

Otterpool Park  
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Zero value parcels									
BM	3.0	Habitat Typologies Present	Percent coverage	Distinctiveness	Condition	Strategic Significance	Difficulty	Time to target condition	BU/ha
		Developed land; sealed surface	100%	Very low	N/A	Area/compensation not in local strategy/ no local strategy	Medium	0	0.00
Total			100%	N/A	N/A	N/A	N/A	N/A	0.00

Otterpool Park

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## **APPENDIX F: Calculator Tool – Area Based Units**

**Headline Results**

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<b>On-site base line</b>	<i>Habitat units</i>	2021.05
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>On-site post-intervention</b> <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	2455.82
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>On-site net % change</b> <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	21.51%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	0.00%
<b>Off-site base line</b>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Off-site post-intervention</b> <small>(Including habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total net unit change</b> <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	434.77
	<i>Hedgerow units</i>	0.00
	<i>River units</i>	0.00
<b>Total on-site net % change plus off-site surplus</b> <small>(including all on-site &amp; off-site habitat retention, creation &amp; enhancement)</small>	<i>Habitat units</i>	21.51%
	<i>Hedgerow units</i>	0.00%
	<i>River units</i>	0.00%
<b>Trading rules Satisfied?</b>	<b>Yes</b>	

Detailed Results

Return to results menu

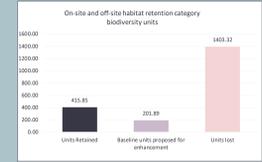
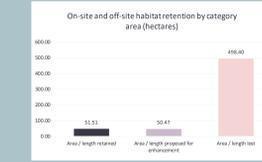
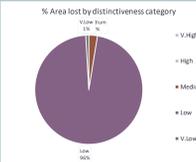
Summary Figures

Net project biodiversity units (including all on-site & off-site habitat retention/creation)		Habitat units	434.77
		Hedgerow units	0.00
		River units	0.00
Total project biodiversity % change (including all On-site & Off-site Habitat Creation - Retained Habitat)		Habitat units	21.51%
		Hedgerow units	0.00%
		River units	0.00%
Combined habitat retention and enhancement			
Total area / length	Habitats	Hedgerows	Rivers
Total units	390.93	0.00	0.00
Area / length retained	51.41	0.00	0.00
Units Retained	415.85	0.00	0.00
Area / length proposed for enhancement	50.47	0.00	0.00
Baseline units proposed for enhancement	201.89	0.00	0.00
Area / length lost	408.89	0.00	0.00
Units lost	1403.32	0.00	0.00

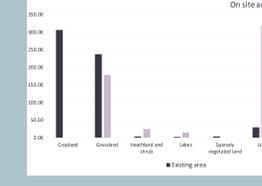
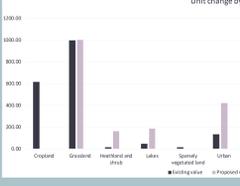
Area habitats

Habitat group	Baseline		Post development on site		On-site Change	
	Existing area	Existing value	Proposed area	Proposed value	Area change	On-site Unit change
Crop/land	306.98	413.96	0.00	0.00	-306.98	-413.96
Grassland	232.74	996.49	178.77	1000.12	-58.97	1.63
Heathland and scrub	3.14	16.54	24.25	162.37	20.91	146.04
Lakes	2.74	17.50	14.73	186.41	11.99	139.15
Sparsely vegetated land	3.87	14.42	0.00	0.00	-3.87	-14.42
Urban	29.32	137.30	317.09	430.57	288.40	297.86
Woodland	0.00	0.00	6.51	51.20	6.51	51.20
Woodland and heath	16.19	199.39	80.32	502.44	64.13	302.56
Woodland/forest	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Inertial Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00

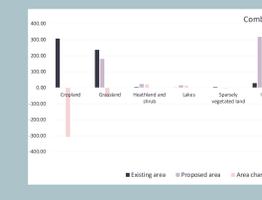
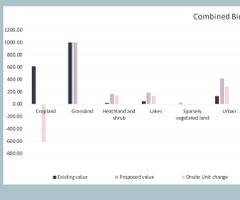
Category	Area lost (hectares)	Area lost (%)
V.High	0	0
High	0	0
Medium	12.83055793	3
Low	481.6589319	97
V.Low	4.510	1



Habitat group	Baseline		Post development Off-site		Off-site Change	
	Existing area	Off-site Existing value	Off-site proposed area	Off-site Proposed value	Off-site area change	Off-site unit change
Crop/land	0.00	0.00	0.00	0.00	0.00	0.00
Grassland	0.00	0.00	0.00	0.00	0.00	0.00
Heathland and scrub	0.00	0.00	0.00	0.00	0.00	0.00
Lakes	0.00	0.00	0.00	0.00	0.00	0.00
Sparsely vegetated land	0.00	0.00	0.00	0.00	0.00	0.00
Urban	0.00	0.00	0.00	0.00	0.00	0.00
Woodland and heath	0.00	0.00	0.00	0.00	0.00	0.00
Woodland/forest	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Inertial Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



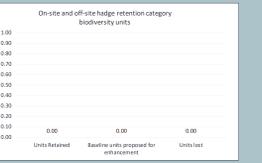
Habitat group	Baseline		On-site and Off-site post development		Combined change	
	Existing area	Existing value	Combined proposed area	Combined proposed value	Proposed area	Proposed value
Crop/land	306.98	413.96	0.00	0.00	-306.98	-413.96
Grassland	232.74	996.49	178.77	1000.12	-58.97	1.63
Heathland and scrub	3.14	16.54	24.25	162.37	20.91	146.04
Lakes	2.74	17.50	14.73	186.41	11.99	139.15
Sparsely vegetated land	3.87	14.42	0.00	0.00	-3.87	-14.42
Urban	29.32	137.30	317.09	430.57	288.40	297.86
Woodland	0.00	0.00	6.51	51.20	6.51	51.20
Woodland and heath	16.19	199.39	80.32	502.44	64.13	302.56
Woodland/forest	0.00	0.00	0.00	0.00	0.00	0.00
Coastal saltmarsh	0.00	0.00	0.00	0.00	0.00	0.00
Coastal lagoons	0.00	0.00	0.00	0.00	0.00	0.00
Rocky shore	0.00	0.00	0.00	0.00	0.00	0.00
Inertial Hard Structures	0.00	0.00	0.00	0.00	0.00	0.00



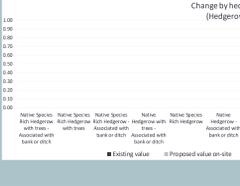
Hedgerows and lines of trees

Hedgerow type	Baseline		Post development on site		On-site Change	
	Existing length on-site	Existing value	Proposed length on-site	Proposed value on-site	On-site length change	On-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental/Non Native	0.00	0.00	0.00	0.00	0.00	0.00

Category	Length lost (RM)	Length lost (%)
V.High	0	0
High	0	0
Medium	0	0
Low	0	0
V.Low	0	0



Hedgerow type	Off-site baseline		Post development off-site		Off-site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental/Non Native	0.00	0.00	0.00	0.00	0.00	0.00



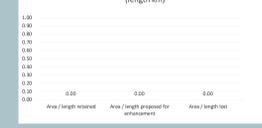
Hedgerow type	Baseline		Post development on site		On-site Change	
	Existing length	Existing value	Proposed length	Proposed value	On-site length change	On-site Unit change
Native Species Rich Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Native Species Rich Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Native Hedgerow with trees	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees (Ecologically Valuable) - with Bank or Ditch	0.00	0.00	0.00	0.00	0.00	0.00
Line of Trees - Associated with bank or ditch	0.00	0.00	0.00	0.00	0.00	0.00
Hedge Ornamental/Non Native	0.00	0.00	0.00	0.00	0.00	0.00



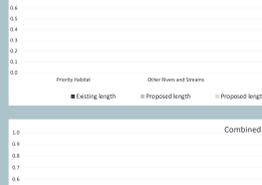
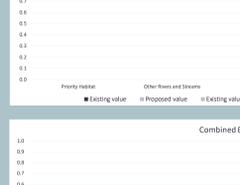
Rivers and Streams

River type	Baseline		Post development on site		On-site Change	
	Existing length	Existing value	Proposed length	Proposed value	On-site length change	On-site Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0

Category	Length lost (RM)	Length lost (%)
V.High	0	0
High	0	0
Medium	0	0
Low	0	0



River type	Baseline		Post development off-site		Off-site Change	
	Existing length off-site	Existing value off-site	Proposed length off-site	Proposed value off-site	Off-site length change	Off-site Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0



River type	Baseline		Post development on site		On-site Change	
	Existing length	Existing value	Proposed length	Proposed value	On-site length change	On-site Unit change
Priority Habitat	0.0	0.0	0.0	0.0	0.0	0.0
Other Rivers and Streams	0.0	0.0	0.0	0.0	0.0	0.0
Ditches	0.0	0.0	0.0	0.0	0.0	0.0
Canals	0.0	0.0	0.0	0.0	0.0	0.0
Culvert	0.0	0.0	0.0	0.0	0.0	0.0





A-1 Site Habitat Base line	
Condense / Show Columns	Condense / Show Rows
Main Menu	Instructions

Ref	Habitats and areas		Area (hectares)	Distinctiveness	Condition	Strategic significance	Suggested action to address habitat losses	Ecological baseline	Retention category biodiversity value					Be spoke compensation agreed for unacceptable losses	Comments	
	Broad habitat	Habitat type							Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area lost		Units lost	Assessor comments
1	Woodland and forest	Wood-pasture and parkland	0.0404	High	Poor	Area/compensation not in local strategy no local strategy	Same habitat required	0.32	0.0404	0.32	0.00	0.00	0.00			
2	Woodland and forest	Lowland mixed deciduous woodland	0.011106597	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.15	0.011107	0.15	0.00	0.00	0.00			
3	Woodland and forest	Lowland mixed deciduous woodland	0.047745839	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.66	0.047746	0.66	0.00	0.00	0.00			
4	Woodland and forest	Other woodland; broadleaved	0.523938485	Medium	Poor	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	2.31	0.523938	2.31	0.00	0.00	0.00			
5	Woodland and forest	Other woodland; broadleaved	0.172026504	Medium	Poor	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.76	0.172027	0.76	0.00	0.00	0.00			
6	Woodland and forest	Lowland mixed deciduous woodland	0.010189095	High	Poor	Within area formally identified in local strategy	Same habitat required	0.07	0.010189	0.07	0.00	0.00	0.00			
7	Heathland and shrub	Mixed scrub	1.225161075	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	4.90		0.00	0.00	1.23	4.90			
8	Woodland and forest	Other woodland; mixed	0.054771475	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.44	0.054771	0.44	0.00	0.00	0.00			
9	Sparsely vegetated land	Ruderal/Ephemeral	0.033398447	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.13		0.00	0.00	0.03	0.13			
10	Sparsely vegetated land	Ruderal/Ephemeral	0.060396287	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.24		0.00	0.00	0.06	0.24			
11	Heathland and shrub	Mixed scrub	0.127725499	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.51		0.00	0.00	0.13	0.51			
12	Woodland and forest	Wood-pasture and parkland	0.443545568	High	Poor	Area/compensation not in local strategy no local strategy	Same habitat required	3.55	0.443545	3.55	0.00	0.00	0.00			
13	Sparsely vegetated land	Ruderal/Ephemeral	0.192039979	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.77		0.00	0.00	0.19	0.77			
14	Sparsely vegetated land	Ruderal/Ephemeral	0.328774111	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	1.32		0.00	0.00	0.33	1.32			
15	Sparsely vegetated land	Ruderal/Ephemeral	0.211160434	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.84		0.00	0.00	0.21	0.84			
16	Cropland	Cereal crops	0.003400158	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01			
17	Cropland	Cereal crops	0.001831045	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00			
18	Woodland and forest	Lowland mixed deciduous woodland	0.008996657	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.12	0.009	0.12	0.00	0.00	0.00			
19	Heathland and shrub	Mixed scrub	0.091059034	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.36		0.00	0.00	0.09	0.36			
20	Lakes	Ponds (Non-Priority Habitat)	0.009722713	Medium	Moderate	Within area formally identified in local strategy	Same habitat required	0.09	0.009723	0.09	0.00	0.00	0.00			
21	Urban	Introduced shrub	0.015988025	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.03		0.00	0.00	0.02	0.03			
22	Urban	Introduced shrub	9.358925405	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00			
23	Heathland and shrub	Mixed scrub	0.015098594	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.06		0.00	0.00	0.02	0.06			
24	Woodland and forest	Other woodland; broadleaved	0.02534454	Medium	Moderate	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.21	0.025344	0.21	0.00	0.00	0.00			
25	Woodland and forest	Lowland mixed deciduous woodland	0.052627005	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.73	0.052627	0.73	0.00	0.00	0.00			
26	Heathland and shrub	Mixed scrub	0.005380095	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.02		0.00	0.00	0.01	0.02			
27	Woodland and forest	Lowland mixed deciduous woodland	0.213458273	High	Moderate	Within area formally identified in local strategy	Same habitat required	2.95	0.213458	2.95	0.00	0.00	0.00			
28	Cropland	Cereal crops	4.042197038	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	8.08		0.00	0.00	4.04	8.08			
29	Cropland	Cereal crops	4.957960256	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	9.92		0.00	0.00	4.96	9.92			
30	Woodland and forest	Lowland mixed deciduous woodland	0.247632274	High	Moderate	Within area formally identified in local strategy	Same habitat required	3.42	0.247632	3.42	0.00	0.00	0.00			
31	Woodland and forest	Lowland mixed deciduous woodland	0.00483125	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.07	0.004831	0.07	0.00	0.00	0.00			
32	Heathland and shrub	Mixed scrub	0.13540322	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.54		0.00	0.00	0.14	0.54			
33	Woodland and forest	Lowland mixed deciduous woodland	1.408812313	High	Good	Within area formally identified in local strategy	Same habitat required	33.30	1.408812	33.30	0.00	0.00	0.00			
34	Cropland	Cereal crops	3.155807116	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	6.31		0.00	0.00	3.16	6.31			
35	Lakes	Ponds (Priority Habitat)	0.036801427	High	Good	Within area formally identified in local strategy	Same habitat required	0.76	0.036801	0.76	0.00	0.00	0.00			
36	Cropland	Cereal crops	51.49245807	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	102.98		0.00	0.00	51.49	102.98			
37	Woodland and forest	Lowland mixed deciduous woodland	3.95018E-05	High	Good	Within area formally identified in local strategy	Same habitat required	0.00	3.95E-05	0.00	0.00	0.00	0.00			
38	Woodland and forest	Lowland mixed deciduous woodland	0.00082496	High	Good	Within area formally identified in local strategy	Same habitat required	0.02	0.000825	0.02	0.00	0.00	0.00			
39	Woodland and forest	Lowland mixed deciduous woodland	6.45058E-05	High	Good	Within area formally identified in local strategy	Same habitat required	0.00	6.45E-05	0.00	0.00	0.00	0.00			
40	Woodland and forest	Lowland mixed deciduous woodland	0.786618509	High	Moderate	Within area formally identified in local strategy	Same habitat required	10.86	0.786619	10.86	0.00	0.00	0.00			
41	Sparsely vegetated land	Ruderal/Ephemeral	0.020182584	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.08		0.00	0.00	0.02	0.08			
42	Woodland and forest	Lowland mixed deciduous woodland	0.360362873	High	Moderate	Within area formally identified in local strategy	Same habitat required	4.97	0.360363	4.97	0.00	0.00	0.00			
43	Woodland and forest	Lowland mixed deciduous woodland	0.825989308	High	Moderate	Within area formally identified in local strategy	Same habitat required	11.40	0.825989	11.40	0.00	0.00	0.00			
44	Woodland and forest	Lowland mixed deciduous woodland	0.055928445	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.77	0.055928	0.77	0.00	0.00	0.00			
45	Woodland and forest	Lowland mixed deciduous woodland	0.001884663	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.03	0.001885	0.03	0.00	0.00	0.00			
46	Woodland and forest	Lowland mixed deciduous woodland	0.031077292	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.43	0.031077	0.43	0.00	0.00	0.00			
47	Heathland and shrub	Mixed scrub	0.058789	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.24		0.00	0.00	0.06	0.24			
48	Woodland and forest	Lowland mixed deciduous woodland	0.634215413	High	Moderate	Within area formally identified in local strategy	Same habitat required	8.75	0.634215	8.75	0.00	0.00	0.00			
49	Sparsely vegetated land	Ruderal/Ephemeral	0.56123896	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	2.24		0.00	0.00	0.56	2.24			
50	Woodland and forest	Lowland mixed deciduous woodland	0.092459854	High	Poor	Within area formally identified in local strategy	Same habitat required	0.64	0.09246	0.64	0.00	0.00	0.00			
51	Urban	Introduced shrub	0.04775717	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.10		0.00	0.00	0.05	0.10			
52	Urban	Introduced shrub	0.07762801	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.16		0.00	0.00	0.08	0.16			
53	Urban	Introduced shrub	0.054127805	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.11		0.00	0.00	0.05	0.11			
54	Urban	Introduced shrub	0.017068778	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.03		0.00	0.00	0.02	0.03			
55	Urban	Introduced shrub	0.025703246	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.05		0.00	0.00	0.03	0.05			
56	Urban	Introduced shrub	0.058202485	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.12		0.00	0.00	0.06	0.12			
57	Urban	Introduced shrub	0.046278695	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.09		0.00	0.00	0.05	0.09			
58	Urban	Introduced shrub	0.06823568	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.14		0.00	0.00	0.07	0.14			
59	Woodland and forest	Other woodland; mixed	3.341836108	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	26.73	3.341836	26.73	0.00	0.00	0.00			
60	Woodland and forest	Lowland mixed deciduous woodland	0.132395595	High	Moderate	Within area formally identified in local strategy	Same habitat required	1.83	0.132396	1.83	0.00	0.00	0.00			
61	Urban	Introduced shrub	0.010803	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.02		0.00	0.00	0.01	0.02			
62	Lakes	Ponds (Priority Habitat)	0.32454954	High	Moderate	Within area formally identified in local strategy	Same habitat required	4.48	0.324555	4.48	0.00	0.00	0.00			
63	Cropland	Cereal crops	7.905841905	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	15.81		0.00	0.00	7.91	15.81			
64	Lakes	Ponds (Priority Habitat)	0.05372362	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.74	0.053724	0.74	0.00	0.00	0.00			
65	Sparsely vegetated land	Ruderal/Ephemeral	0.026164879	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.10		0.00	0.00	0.03	0.10			
66	Cropland	Cereal crops	6.48347994	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	12.97		0.00	0.00	6.48	12.97			
67	Lakes	Ponds (Non-Priority Habitat)	0.015655603	Medium	Moderate	Within area formally identified in local strategy	Same habitat required	0.14	0.015656	0.14	0.00	0.00	0.00			
68	Cropland	Cereal crops	1.497253444	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	2.99		0.00	0.00	1.50	2.99			
69	Cropland	Cereal crops	0.549758239	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	1.10		0.00	0.00	0.55	1.10			
70	Sparsely vegetated land	Ruderal/Ephemeral	0.058076202	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.23		0.00	0.00	0.06	0.23			
71	Cropland	Cereal crops	14.40336336	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	28.81		0.00	0.00	14.40	28.81			
72	Woodland and forest	Wood-pasture and parkland	0.00800175	High	Poor	Area/compensation not in local strategy no local strategy	Same habitat required	0.00	1.75E-06	0.00	0.00	0.00	0.00			
73	Lakes	Ponds (Non-Priority Habitat)	0.1328885	Medium	Moderate	Within area formally identified in local strategy	Same habitat required	1.22	0.132889	1.22	0.00	0.00	0.00			
74	Lakes	Ponds (Non-Priority Habitat)	0.0553125	Medium	Moderate	Within area formally identified in local strategy	Same habitat									

122	Woodland and forest	Lowland mixed deciduous woodland	0.245625436	High	Moderate	Within area formally identified in local strategy	Same habitat required	3.39	0.245625	3.39	0.00	0.00	0.00						
123	Cropland	Cereal crops	18.13993175	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	36.28		0.00	0.00	18.14	36.28						
124	Lakes	Ponds (Priority Habitat)	0.0684684	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.94	0.068469	0.94	0.00	0.00	0.00						
125	Lakes	Ponds (Non-Priority Habitat)	0.025876501	Medium	Poor	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.12	0.025877	0.12	0.00	0.00	0.00						
126	Heathland and shrub	Mixed scrub	0.029552419	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.12		0.00	0.00	0.03	0.12						
127	Cropland	Cereal crops	6.083380508	Low	N/A - Agricultural	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	12.17		0.00	0.00	6.08	12.17						
128	Woodland and forest	Other woodland/broadleaved	0.113800452	Medium	Moderate	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	1.00	0.11308	1.00	0.00	0.00	0.00						
129	Sparsely vegetated land	Ruderal/Ephemeral	0.054369545	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.22		0.00	0.00	0.05	0.22						
130	Sparsely vegetated land	Ruderal/Ephemeral	0.012733733	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.05		0.00	0.00	0.01	0.05						
131	Lakes	Ponds (Non-Priority Habitat)	0.009985728	Medium	Moderate	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.09	0.009986	0.09	0.00	0.00	0.00						
132	Woodland and forest	Lowland mixed deciduous woodland	0.17788719	High	Moderate	Within area formally identified in local strategy	Same habitat required	2.45	0.177884	2.45	0.00	0.00	0.00						
133	Woodland and forest	Lowland mixed deciduous woodland	0.046792031	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.65	0.046792	0.65	0.00	0.00	0.00						
134	Woodland and forest	Lowland mixed deciduous woodland	0.072824715	High	Poor	Within area formally identified in local strategy	Same habitat required	0.50	0.072825	0.50	0.00	0.00	0.00						
135	Woodland and forest	Lowland mixed deciduous woodland	0.211234696	High	Moderate	Within area formally identified in local strategy	Same habitat required	2.92	0.211235	2.92	0.00	0.00	0.00						
136	Woodland and forest	Lowland mixed deciduous woodland	0.11285619	High	Moderate	Within area formally identified in local strategy	Same habitat required	1.56	0.112856	1.56	0.00	0.00	0.00						
137	Woodland and forest	Lowland mixed deciduous woodland	0.043753554	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.60	0.043754	0.60	0.00	0.00	0.00						
138	Urban	Introduced shrub	0.000785971	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
139	Urban	Introduced shrub	0.004988821	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
140	Heathland and shrub	Mixed scrub	0.011757877	Medium	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.05		0.00	0.00	0.01	0.05						
141	Heathland and shrub	Mixed scrub	0.005442538	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.04		0.00	0.00	0.01	0.04						
142	Sparsely vegetated land	Ruderal/Ephemeral	0.816081011	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	3.26		0.00	0.00	0.82	3.26						
143	Sparsely vegetated land	Ruderal/Ephemeral	0.018306835	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.07		0.00	0.00	0.02	0.07						
144	Sparsely vegetated land	Ruderal/Ephemeral	0.05118127	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.20		0.00	0.00	0.05	0.20						
145	Grassland	Other neutral grassland	6.128273687	Medium	Moderate	Location ecologically desirable but not in local strategy	Same broad habitat or a higher distinctiveness habitat required	53.88		0.00	0.00	6.12	53.88						
146	Sparsely vegetated land	Ruderal/Ephemeral	0.07234976	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.29		0.00	0.00	0.07	0.29						
147	Woodland and forest	Lowland mixed deciduous woodland	5.358E-07	High	Good	Within area formally identified in local strategy	Same habitat required	0.00	5.36E-07	0.00	0.00	0.00	0.00						
148	Sparsely vegetated land	Ruderal/Ephemeral	0.029107651	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.12		0.00	0.00	0.03	0.12						
149	Woodland and forest	Lowland mixed deciduous woodland	0.14942773	High	Poor	Within area formally identified in local strategy	Same habitat required	1.03	0.149428	1.03	0.00	0.00	0.00						
150	Woodland and forest	Lowland mixed deciduous woodland	0.178149947	High	Poor	Within area formally identified in local strategy	Same habitat required	1.23	0.17815	1.23	0.00	0.00	0.00						
151	Woodland and forest	Lowland mixed deciduous woodland	0.033551681	High	Poor	Within area formally identified in local strategy	Same habitat required	0.23	0.033552	0.23	0.00	0.00	0.00						
152	Woodland and forest	Lowland mixed deciduous woodland	0.54397017	High	Moderate	Within area formally identified in local strategy	Same habitat required	7.51	0.543977	7.51	0.00	0.00	0.00						
153	Woodland and forest	Lowland mixed deciduous woodland	0.312440061	High	Moderate	Within area formally identified in local strategy	Same habitat required	4.31	0.31244	4.31	0.00	0.00	0.00						
154	Woodland and forest	Lowland mixed deciduous woodland	0.812011749	High	Moderate	Within area formally identified in local strategy	Same habitat required	11.21	0.812012	11.21	0.00	0.00	0.00						
155	Woodland and forest	Lowland mixed deciduous woodland	0.050729609	High	Moderate	Within area formally identified in local strategy	Same habitat required	0.70	0.05073	0.70	0.00	0.00	0.00						
156	Woodland and forest	Lowland mixed deciduous woodland	0.131090333	High	Moderate	Within area formally identified in local strategy	Same habitat required	1.81	0.13109	1.81	0.00	0.00	0.00						
157	Woodland and forest	Lowland mixed deciduous woodland	0.841266052	High	Moderate	Within area formally identified in local strategy	Same habitat required	11.61	0.841266	11.61	0.00	0.00	0.00						
158	Woodland and forest	Lowland mixed deciduous woodland	0.219674795	High	Moderate	Within area formally identified in local strategy	Same habitat required	3.03	0.219675	3.03	0.00	0.00	0.00						
159	Woodland and forest	Lowland mixed deciduous woodland	1.35076451	High	Moderate	Within area formally identified in local strategy	Same habitat required	18.64	1.350767	18.64	0.00	0.00	0.00						
160	Sparsely vegetated land	Ruderal/Ephemeral	0.424929682	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.85		0.00	0.00	0.42	0.85						
161	Sparsely vegetated land	Ruderal/Ephemeral	0.096656831	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.19		0.00	0.00	0.10	0.19						
162	Sparsely vegetated land	Ruderal/Ephemeral	0.018507093	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.04		0.00	0.00	0.02	0.04						
163	Sparsely vegetated land	Ruderal/Ephemeral	0.056531156	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.23		0.00	0.00	0.06	0.23						
164	Sparsely vegetated land	Ruderal/Ephemeral	0.023494444	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.09		0.00	0.00	0.02	0.09						
165	Sparsely vegetated land	Ruderal/Ephemeral	0.005340703	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
166	Sparsely vegetated land	Ruderal/Ephemeral	0.005860608	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.02		0.00	0.00	0.00	0.02						
167	Sparsely vegetated land	Ruderal/Ephemeral	0.001850734	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
168	Sparsely vegetated land	Ruderal/Ephemeral	0.001642786	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
169	Sparsely vegetated land	Ruderal/Ephemeral	0.002396018	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
170	Sparsely vegetated land	Ruderal/Ephemeral	0.002256372	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
171	Sparsely vegetated land	Ruderal/Ephemeral	0.032932536	Low	Moderate	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.13		0.00	0.00	0.03	0.13						
172	Urban	Vacant/developed land/ bare ground	0.028217201	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.06		0.00	0.00	0.03	0.06						
173	Urban	Vacant/developed land/ bare ground	2.128674478	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	4.26		0.00	0.00	2.13	4.26						
174	Heathland and shrub	Mixed scrub	0.210533558	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	1.68		0.00	0.00	0.21	1.68						
175	Heathland and shrub	Mixed scrub	0.032298066	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.26		0.00	0.00	0.03	0.26						
176	Heathland and shrub	Mixed scrub	0.012338798	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.10		0.00	0.00	0.01	0.10						
177	Heathland and shrub	Mixed scrub	0.01661072	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.13		0.00	0.00	0.02	0.13						
178	Heathland and shrub	Mixed scrub	0.018754208	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.15		0.00	0.00	0.02	0.15						
179	Heathland and shrub	Mixed scrub	0.050392515	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.40		0.00	0.00	0.05	0.40						
180	Heathland and shrub	Mixed scrub	0.0402363	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.32		0.00	0.00	0.04	0.32						
181	Heathland and shrub	Mixed scrub	0.018379892	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.15		0.00	0.00	0.02	0.15						
182	Heathland and shrub	Mixed scrub	0.017476264	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.14		0.00	0.00	0.02	0.14						
183	Urban	Introduced shrub	0.002067521	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
184	Urban	Introduced shrub	0.001355093	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
185	Urban	Introduced shrub	0.002451762	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
186	Urban	Introduced shrub	0.00259315	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
187	Urban	Introduced shrub	0.001917449	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
188	Urban	Introduced shrub	0.0024412	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
189	Urban	Introduced shrub	0.00182867	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
190	Urban	Introduced shrub	0.003995364	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.01		0.00	0.00	0.00	0.01						
191	Urban	Introduced shrub	0.001092222	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
192	Urban	Introduced shrub	0.015389634	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.03		0.00	0.00	0.02	0.03						
193	Urban	Introduced shrub	0.000491298	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
194	Urban	Introduced shrub	0.001482722	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
195	Urban	Introduced shrub	0.00185995	Low	Poor	Area/compensation not in local strategy no local strategy	Same distinctiveness or better habitat required	0.00		0.00	0.00	0.00	0.00						
196	Heathland and shrub	Mixed scrub	0.065282797	Medium	Poor	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	0.26		0.00	0.00	0.07	0.26						
197	Heathland and shrub	Mixed scrub	0.30323045	Medium	Moderate	Area/compensation not in local strategy no local strategy	Same broad habitat or a higher distinctiveness habitat required	2.43		0.00	0.00	0.30	2.43						
198	Cropland	Cereal crops	24.27942553																







## **APPENDIX G: Baseline river condition indicator data**

longitude	latitude	easting	northing	ngr	status	timestamp	riverName	reachName	subreachName	projectName	projectCode	surveyType	scenario	module	preliminar	shape	averageW	PositiveIn	NegativeIn	A6	A7	A8	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	D1	D2	D3	D4	D5	E1	E2	E3	E4	E5	E6	E7	E8	E9	E10	E11	E12			
1.015975	51.09629	611273.5	137324.6	TR 11273	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.546559	1.245283	2.64	1.315789	-0.76923	FALSE	GP	SA	2	0	0	0	0	-3	2	1	2	4	1	1	0	0	0	0	1	1	1	1	0	0	1	2	1	2	2	2	-3	0	0	0	0	-4	
1.027455	51.0842	612132.5	136013.3	TR 12132	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.680162	0.818182	0.9	1.526316	-0.84615	FALSE	BO	SA	2	0	0	0	0	-2	2	2	2	3	2	4	0	-2	-2	0	1	1	2	1	0	0	0	0	3	0	0	0	0	-4	0	0	0		
1.018275	51.09728	611430	137441.1	TR 11430	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.59919	1.367089	3.24	1.368421	-0.76923	FALSE	GP	GP	2	0	0	0	0	-3	2	1	2	3	1	0	0	0	0	0	2	2	1	1	0	1	2	1	1	1	3	-3	0	0	0	0	-4		
1.029651	51.08183	612297.2	135756.1	TR 12297	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.295547	0.72	0.9	1.526316	-0.23077	FALSE	GP	SA	2	2	0	0	0	-3	2	1	2	3	2	4	0	0	0	0	0	2	2	1	1	0	0	1	1	0	0	3	0	0	0	0	0		
1.025757	51.0855	612207.7	136153	TR 12007	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.376518	1.135593	1.34	1.684211	-0.30769	FALSE	GP	SI	2	0	0	0	0	-3	2	1	2	4	2	4	0	0	0	0	0	2	2	2	2	0	1	2	1	0	0	3	-1	0	0	0	0	0	
1.023285	51.08697	611827.9	136309	TR 11827	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.37247	1.568627	0.8	1.526316	-0.15385	FALSE	SI	SI	2	1	0	0	0	-2	3	1	3	4	2	4	0	0	0	0	0	3	2	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	
1.022568	51.08997	611764	136640.3	TR 11763	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	-0.02024	1.671642	1.12	1.210526	-1.23077	FALSE	CO	GP	2	2	0	0	0	-3	2	1	3	3	1	3	0	-3	-2	0	0	0	0	0	0	0	0	2	1	0	0	3	-4	0	0	0	-4	0	0
1.023811	51.09147	611844.1	136811.4	TR 11844	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.882591	0.6875	1.54	1.421053	-0.53846	FALSE	GP	SI	2	2	0	0	0	-3	2	2	2	3	2	2	0	0	0	0	1	0	2	1	0	0	2	1	0	0	3	-4	0	0	0	0	0		
1.003368	51.09856	610380.7	137540.2	TR 10380	:complete	2020-07-0	East stour	East stour	Otterpool	East stour	pre-project			1 to 5	0.805468	1.457944	3.12	1.421053	-0.61538	FALSE	CO	GP	2	0	0	0	0	-3	2	2	2	3	1	0	0	0	0	1	1	1	1	0	1	2	2	2	2	2	-3	0	0	0	-2				
1.022986	51.09296	611779.5	136974.6	TR 11779	:complete	2020-07-0	East stour	East stour	Otterpool	East stour	pre-project			1 to 5	0.777328	0.375114	0.82	1.315789	-0.53846	FALSE	SI	SI	2	0	0	0	0	-2	2	0	2	4	1	4	0	0	0	0	1	1	1	1	0	0	2	2	1	0	1	-4	0	0	0	-1			
0.990497	51.1004	609471.4	137708.8	TR 09471	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.8583	1.076923	2.1	1.473684	-0.61538	FALSE	CO	SI	2	0	0	0	0	-2	2	2	3	4	1	4	0	0	0	0	1	1	1	1	0	1	2	1	0	0	2	-4	0	0	0	0	-2		
0.99334	51.10051	609669.9	137728.5	TR 09669	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.437247	1.176923	3.06	2.052632	-0.61538	FALSE	GP	GP	2	1	0	0	0	-2	2	2	3	4	2	4	0	0	0	0	1	1	1	2	0	1	4	2	2	2	3	-3	0	0	0	0	-3		
0.996599	51.09916	609904.1	137587.5	TR 09904	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.097166	1.232394	3.5	1.789474	-0.69231	FALSE	CO	SA	1	0	0	0	0	-3	2	1	3	3	2	4	0	0	0	0	0	2	1	1	2	0	2	2	2	1	3	-3	0	0	-1	0	-2		
0.998409	51.09894	610031.8	137568.8	TR 10031	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.91498	1.07483	3.16	1.684211	-0.76923	FALSE	BE	GP	2	0	0	0	0	-3	2	1	3	4	2	3	0	0	0	0	0	2	2	1	1	0	2	2	1	1	0	3	-3	0	0	-1	0	-3	
1.001369	51.09942	610236.8	137629.9	TR 10236	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	1.255061	1.838384	3.64	1.947368	-0.69231	FALSE	CO	GP	2	2	0	0	0	-2	3	1	2	3	3	4	0	0	0	0	0	2	1	1	2	0	2	2	2	2	1	2	-3	0	0	-1	0	-3	
1.006181	51.09783	610580.9	137467.7	TR 10580	:complete	2020-07-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	-0.22672	1.02963	2.78	1.157895	-1.38462	FALSE	BO	GP	2	1	0	0	0	-3	2	0	2	4	1	0	0	-2	-2	0	1	1	1	1	0	0	2	1	0	0	3	-4	-2	-2	0	0	-3		
1.014906	51.09497	611204.7	137174.8	TR 11204	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.165992	1.426966	2.54	1.473684	-1.30769	FALSE	SA	SA	2	0	0	0	0	-2	3	0	3	4	1	1	0	-2	-2	0	2	1	1	1	1	0	0	2	2	1	2	-4	0	0	-4	0	-3		
1.032292	51.09549	612419.5	137282.2	TR 12419	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.538462	2.5	2.4	1	-0.46154	FALSE			1	0	0	0	0	-2	1	1	2	3	1	3	0	0	0	0	2	1	1	1	0	1	1	0	0	0	0	-4	0	0	0	0			
1.028819	51.09518	612177.8	137237.5	TR 12177	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.882591	1.685393	1.5	1.421053	-0.53846	FALSE	GP	GP	2	0	0	0	0	-2	2	1	2	3	1	2	0	0	0	0	2	1	1	1	0	2	2	2	1	1	1	-4	0	0	-1	0	0		
1.027252	51.09429	612072.2	137134.3	TR 12072	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.805468	0.861789	2.12	1.421053	-0.61538	FALSE	GP	GP	2	0	0	0	0	-3	2	1	3	4	1	2	0	0	0	0	1	0	1	1	0	1	2	1	2	-4	0	0	0	0	-1				
1.016085	51.09314	611295.6	136974.2	TR 11295	:complete	2020-06-0	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.59919	1.895425	2.9	1.368421	-0.76923	FALSE	SA	SA	2	0	0	0	0	-3	3	2	3	4	1	1	0	0	0	0	2	1	1	1	0	0	2	1	0	0	2	-4	0	0	0	0	-3		
1.024736	51.09337	611900.2	137024.5	TR 11900	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.987854	1.25	3.2	1.526316	-0.53846	FALSE	GP	SA	3	0	0	0	0	0	3	1	3	4	2	1	0	0	0	0	1	0	1	1	0	1	1	1	2	1	3	-4	0	0	-2	0	-1		
1.020036	51.09298	611573	136967.8	TR 11572	:complete	2020-06-3	East stour	East stour	East stour	Otterpool	East stour	pre-project		1 to 5	0.91498	2.481013	1.96	1.684211	-0.76923	FALSE	GP	GP	2	0	0	0	0	-3	3	0	2	4	1	4	0	0	0	0	0	2	2	1	1	0	0	3	1	3	1	2	-3	0	0	0	0	-4	

## APPENDIX H: Post-development river condition indicators

Table 31: Post-development river condition indicators

Condition indicator code	Assessment rationale	Indicator score
B1	Assumed three types of vegetation Present or Extensive on each bank – tall herbs, scrub and trees.	2
B2	Assumed fallen trees or large wood (>1m long and >10cm diameter) present on each bank along whole river corridor.	2
B3	Extensive swales, basins, ponds and wetlands will be created along the East Stour River. These features will align with the ponds and wetlands, with either short or tall non-woody vegetation, typologies. It is expected that on average across the river corridor there will be one such feature that is extensive on one of the banks. The locations of proposed wetland features are shown in Figure 7 in Chapter 15 Appendix 2.	2
B4	Assumed no non-native invasive species (NNIS) will be present with appropriate management.	0
B5	Assumed no managed ground cover typologies within 10m of the bank top.	0
C1	Assumed four types of vegetation Present or Extensive on each bank – short grass, tall herbs, scrub and trees.	3
C2	Assumed same score as in the baseline. The average score across the East Stour and East Stour tributary is 1.1. It is difficult to improve this score, other than allowing deadwood of varying sizes to remain. It is not expected that such features will be extensive enough to result in indicator value/score.	1
C3	Assumed the same number of bank profiles as in the baseline as extensive bank works are not expected.	2.43
C4	Assume same number of bank profile types as present	3.57
C5	Assume same number of bank materials as present	1.49
C6	Assumed low bare ground on banks as likely to be vegetated and without heavy grazing and poaching to reduce vegetation cover. Baseline scores are 2.13 and 3.57 for East Stour and East Stour tributary respectively, so assumed similar level of bare ground to in baseline.	2
C7	No significant artificial banks expected. Proposed bridges are clear span.	0
C8	No significant artificial banks expected. Proposed bridges are clear span.	0



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Condition indicator code	Assessment rationale	Indicator score
C9	No significant artificial banks expected. Proposed bridges are clear span.	0
C10	Assumed no NNIS will be present with appropriate management.	0
D1	Assumed emergent vegetation will be present throughout watercourses in the channel margin. Based upon existing level of such vegetation, there is not expected to be sufficient amounts of 'extensive' coverage to result in a higher indicator score. Slight increase in marginal vegetation expected due to lack of poaching from sheep and cattle.	2
D2	Assumed two types of marginal vegetation P or E within an average stretch. Reduced nutrient enrichment from agricultural land is expected to encourage greater diversity. Translocation/planting of plants will also increase diversity. Low levels currently present, so precautionary approach taken to achievable level of uplift.	2
D3	Assumed to be the same as baseline due to the complexity of encouraging the development of natural physical features.	1.05
D4	Assumed to be the same as baseline due to the complexity of encouraging the development of natural physical features.	1.08
D5	No significant jetties, deflectors, pies in baseline, so it is assumed that none will be added, with Sustainable Drainage Systems features proposed.	0
E1	Due to low levels of aquatic morphotype richness, it is assumed that only 1 type of aquatic vegetation will be present within a module. This will be encouraged by the reduction of agricultural pollution from land use change.	1
E2	Typically, two channel bed tree features are present in the baseline (vegetation shading channel and exposed roots). It is not expected that two additional features (e.g., large wood, fallen tree) will be present to result in an indicator score of three.	2
E3	Assumed to be the same as baseline due to the complexity of encouraging the development of natural physical features. Baseline score average is 0.98, so this score is assumed.	1.30
E4	Assumed to be the same as baseline due to the complexity of encouraging the development of natural physical features. Baseline score average is 0.93, so this score is assumed.	0.93

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Condition indicator code	Assessment rationale	Indicator score
E5	Assumed to be the same as baseline due to the complexity of encouraging the development of natural physical features. Baseline score average is 0.60, so this score is assumed.	0.60
E6	Assumed three types of bed material P and E in the baseline (silt, sand and gravel-pebble) will still be dominant post development. Less silt expected due to reduced agricultural run-off.	3
E7	Assumed that siltation will be reduced to P across subreaches due to reduced agricultural run-off.	-2
E8	Assumed no channel bed reinforcement	0
E9	Assumed no channel bed reinforcement	0
E10	Assume intermediate bridge shadow only (up to 25m), which does not score negatively, and bridges are clear span. No significant large trash assumed. Removal of some of the culverts present in the baseline is proposed. Small number of minor culverts are present in the baseline, but these are not considered to be significant contributors to the character of the watercourses.	0
E11	Assumed no non-native invasive species (NNIS) will be present with appropriate management.	0
E12	Assume levels of filamentous algae will be somewhat reduced by the reduction in agricultural runoff. Assumed minor improvement from baseline score of -1.66 to -1.	-1

## **APPENDIX I: River condition calculation spreadsheet**

## Headline Results

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### On-site baseline

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	73.69

### On-site post-intervention

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	85.19

### On-site net % change

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00%
<i>Hedge row units</i>	0.00%
<i>River units</i>	15.60%

### Off-site baseline

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	0.00

### Off-site post-intervention

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	0.00

### Total net unit change

(including all on-site & off-site habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	11.49

### Total on-site net % change plus off-site surplus

(including all on-site & off-site habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00%
<i>Hedge row units</i>	0.00%
<i>River units</i>	15.60%

### Trading rules Satisfied?

Yes



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Trading Summary			
Distinctiveness Group	Trading Rate	Trading Satisfied?	
Very High	Bespoke compensation likely to be required	Yes	
High	Same habitat required	Yes	
Medium	Some habitat surplus or better distinctiveness habitat required	Yes	
Low	Some distinctiveness or better habitat required	Yes	

Very High Distinctiveness					
Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Unit Losses
Grassland - Lowland dry acid grassland	Grassland	0.00	0.00	0.00	
Grassland - Lowland meadows	Grassland	0.00	0.00	0.00	
Grassland - Upland hay meadows	Grassland	0.00	0.00	0.00	
Heathland and shrub - Mountain heath and yellow scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Aquifer fed naturally fluctuating water bodies	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Callunetum grasslands	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Eriophorum pavement	Sparsely vegetated land	0.00	0.00	0.00	
Wetland - Blanket bog	Wetland	0.00	0.00	0.00	
Wetland - Depressions on Peat substrates (H7150)	Wetland	0.00	0.00	0.00	
Wetland - Eriophorum (upland and lowland)	Wetland	0.00	0.00	0.00	
Wetland - Lowland raised bog	Wetland	0.00	0.00	0.00	
Wetland - Oceanic Valley mire (1) (D2.1)	Wetland	0.00	0.00	0.00	
Wetland - Purple moor grass and rush pastures	Wetland	0.00	0.00	0.00	
Wetland - Transition mires and quaking bogs (H7140)	Wetland	0.00	0.00	0.00	
Woodland and forest - Wood pasture and parkland	Woodland and forest	0.00	0.00	0.00	
Rocky shore - High energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral seagrass on peat, clay or chalk	Intertidal sediment	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Very High Distinctiveness Summary	
Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00

High Distinctiveness					
Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Losses not yet accounted for
Grassland - Traditional orchards	Grassland	0.00	0.00	0.00	
Grassland - Rhododendron Wooded Moor (K10M)	Grassland	0.00	0.00	0.00	
Grassland - Lowland calcareous grassland	Grassland	0.00	0.00	0.00	
Grassland - Tall herb communities	Grassland	0.00	0.00	0.00	
Grassland - Upland calcareous grassland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Lowland Heathland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Sea Buckthorn scrub (Annex 1)	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Upland Heathland	Heathland and shrub	0.00	0.00	0.00	
Lakes - High alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Low alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Mire Lakes	Lakes	0.00	0.00	0.00	
Lakes - Moderate alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Peat lakes	Lakes	0.00	0.00	0.00	
Lakes - Shallow (Oxbow) lakes	Lakes	0.00	0.00	0.00	
Lakes - Temporary lakes, ponds and pools	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Coastal sand dunes	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Coastal vegetated shingle	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Inland rock outcrop and scree habitats	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Maritime cliff tops	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Open Mosaic Habitats on Previously Developed Land	Urban	0.00	0.00	0.00	
Wetland - Reeds/beds	Wetland	0.00	0.00	0.00	
Woodland and forest - Felled	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland beech and new woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland mixed deciduous woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Native pine woodlands	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland birchwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland mixed alderwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland oakwood	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Wet woodland	Woodland and forest	0.00	0.00	0.00	
Coastal lagoons - Coastal lagoons	Coastal lagoons	0.00	0.00	0.00	
Rocky shore - High energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral mud	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	
Coastal saltmarsh - Saltmarshes and saline reeds/beds	Coastal Saltmarsh	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reefs - Mussel	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reef - Substrata	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Features of littoral sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral muddy sand	Intertidal sediment	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

High Distinctiveness Summary	
High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit: Like for like not satisfied	0.00

Medium Distinctiveness					
Habitat Group	Group	On site unit change	Off Site Unit Change	Project wide unit change	Cumulative Broad Habitat Change
Cropland - Arable field margins cultivated annually	Cropland	0.00	0.00	0.00	
Cropland - Arable field margins game bird mix	Cropland	0.00	0.00	0.00	
Cropland - Arable field margins pollen & nectar	Cropland	0.00	0.00	0.00	
Cropland - Arable field margins tussocky	Cropland	0.00	0.00	0.00	
Cropland - Cereals winter stubble	Cropland	0.00	0.00	0.00	
Grassland - Other lowland acid grassland	Grassland	0.00	0.00	0.00	
Grassland - Other neutral grassland	Grassland	0.00	0.00	0.00	
Grassland - Upland acid grassland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Blackthorn scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Bramble scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Gorse scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Hawthorn scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Hazel scrub	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Mixed scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Pond (Non-Privity Habitat)	Lakes	0.00	0.00	0.00	
Lakes - Reservoirs	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Other inland rock and scree	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Brown roof	Urban	0.00	0.00	0.00	
Urban - Concrete and churchyards	Urban	0.00	0.00	0.00	
Urban - Intensive green roof	Urban	0.00	0.00	0.00	
Woodland and forest - Other Scots Pine woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Other woodland; broadleaved	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Other woodland; mixed	Woodland and forest	0.00	0.00	0.00	
Intertidal sediment - Littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral sand	Intertidal sediment	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial hard structures with Integrated Greening of Grey Infrastructure (IGGI)	Intertidal	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	

Medium Distinctiveness Summary	
Medium Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up	0.00
Higher distinctiveness surplus units minus Medium Distinctiveness Broad Habitat Deficit	0.00
Cumulative surplus of units	0.00

Low Distinctiveness					
Habitat group	Group	On site unit change	Off Site Unit Change	Project wide unit change	
Cropland - Cereals crops	Cropland	0.00	0.00	0.00	
Cropland - Cereals crops other	Cropland	0.00	0.00	0.00	
Cropland - Horticulture	Cropland	0.00	0.00	0.00	
Cropland - Intensive orchards	Cropland	0.00	0.00	0.00	
Cropland - Non-cereals crops	Cropland	0.00	0.00	0.00	
Cropland - Temporary grass and clover leys	Cropland	0.00	0.00	0.00	
Grassland - Modified grassland	Grassland	0.00	0.00	0.00	
Grassland - Bracken	Grassland	0.00	0.00	0.00	
Heathland and shrub - Rhododendron scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Ornamental lake or pond	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Ruderal/Ephemeral	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Bloukrap	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Aliments	Urban	0.00	0.00	0.00	
Urban - Facade-bound green wall	Urban	0.00	0.00	0.00	
Urban - Ground-based green wall	Urban	0.00	0.00	0.00	
Urban - Ground level planter	Urban	0.00	0.00	0.00	
Urban - Extensive green roof	Urban	0.00	0.00	0.00	
Urban - Intertidal shrub	Urban	0.00	0.00	0.00	
Urban - Rain garden	Urban	0.00	0.00	0.00	
Urban - Sand pit quarry or open cast mine	Urban	0.00	0.00	0.00	
Urban - Urban Tree	Urban	0.00	0.00	0.00	
Urban - Sustainable urban drainage feature	Urban	0.00	0.00	0.00	
Urban - Vegetated kerb land surround	Urban	0.00	0.00	0.00	
Woodland and forest - Other coniferous woodland	Woodland and forest	0.00	0.00	0.00	
Coastal saltmarsh - Artificial saltmarshes and saline reeds/beds	Coastal saltmarsh	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral mud	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral mixed sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral seaweeds	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Artificial littoral biogenic reefs	Intertidal sediment	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial hard structures	Intertidal	0.00	0.00	0.00	
Intertidal Hard Structures - Artificial features of hard structures	Intertidal	0.00	0.00	0.00	
Heathland and shrub - Sea Buckthorn scrub (other)	Heathland and shrub	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	

Low Distinctiveness Summary	
Low Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Cumulative surplus of units	0.00







## **APPENDIX J: Hedgerow condition calculation spreadsheet**

## Headline Results

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### On-site baseline

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	131.65
<i>River units</i>	0.00

### On-site post-intervention

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	232.78
<i>River units</i>	0.00

### On-site net % change

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00%
<i>Hedge row units</i>	76.82%
<i>River units</i>	0.00%

### Off-site baseline

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	0.00

### Off-site post-intervention

(including habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	0.00
<i>River units</i>	0.00

### Total net unit change

(including all on-site & off-site habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00
<i>Hedge row units</i>	101.13
<i>River units</i>	0.00

### Total on-site net % change plus off-site surplus

(including all on-site & off-site habitat retention, creation & enhancement)

<i>Habitat units</i>	0.00%
<i>Hedge row units</i>	76.82%
<i>River units</i>	0.00%

### Trading rules Satisfied?

Yes

**B-1 Site Hedge Baseline**

Customer / Other Contacts: \_\_\_\_\_  
 Contract / Order Dates: \_\_\_\_\_  
 Main Name: \_\_\_\_\_  
 Instructions: \_\_\_\_\_

Bunche ref	Hedge number	Hedge type	Length DM	Market characteristics		Market position		Strategic alignment			Approved status in reference tables	Residual hedge value	Residual category biodiversity value						Comments	
				Distance	Score	Condition	Score	Strategic alignment	Strategic alignment	Strategic position multiplier			Length retained	Length released	Value retained	Value released	Length lost	Value lost	Assess estimate	Revised estimate
1		Native Species Rich Hedge	0.39613	Medium	4	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Not for loss or release	6.76	0.27613		3.22	0.00	0.12	1.44		
2		Native Hedge	3.3792	Low	2	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	None (distance) based on better	20.26	0.0947		19.37	0.00	0.28	1.71		
3		Native Species Rich Hedge with trees	1.77217	High	6	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Not for loss or release	14.91	1.74787		13.16	0.00	0.02	0.45		
4		Native Hedge with trees	1.10294	Medium	4	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Not for loss or release	13.24	0.77704		0.00	0.00	0.37	4.38		
5		Native Species Rich Hedge with trees - Associated with bank or ditch	0.768	High	6	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Like the site	14.43	0.00		14.43	0.00	0.00	0.00	0.00	
6		Native Hedge with trees - Associated with bank or ditch	0.591	High	6	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Not for loss or release	10.84	0.501		10.34	0.00	0.00	0.24		
7		Native Species Rich Hedge - Associated with bank or ditch	0.437	High	6	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Like the site or better	11.21	0.527		10.68	0.00	0.00	0.44		
8		Native Hedge - Associated with bank or ditch	0.731	Medium	4	Good	1	Are complementary sets in local strategy? no	Low Strategic Significance	1	Not for loss or release	8.82	0.703		8.12	0.00	0.00	0.56		
9		Native Hedge	1.1024	Low	2	moderate	2	Are complementary sets in local strategy? no	Low Strategic Significance	1	None (distance) based on better	12.48	2.0376		11.24	0.00	0.28	1.14		
10																				
11																				
12																				
13																				
14																				
			<b>13.48</b>									<b>131.40</b>	<b>11.10</b>	<b>0.00</b>	<b>110.30</b>	<b>0.00</b>	<b>1.90</b>	<b>12.95</b>		



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### Trading Summary

Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required	Yes
High	Same habitat required	Yes
Medium	Same habitat or a better distinctiveness habitat required	Yes
Low	Same distinctiveness or better habitat required	Yes

### Very High Distinctiveness

Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Unit Losses
Grassland - Lowland dry acid grassland	Grassland	0.00	0.00	0.00	
Grassland - Lowland meadows	Grassland	0.00	0.00	0.00	
Grassland - Upland hay meadows	Grassland	0.00	0.00	0.00	
Heathland and shrub - Mountain heath and yellow scrub	Heathland and shrub	0.00	0.00	0.00	
Lakes - Aquatic led naturally fluctuating water bodies	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Callunetum grasslands	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Eriophorum pavement	Sparsely vegetated land	0.00	0.00	0.00	
Wetland - Blanket bog	Wetland	0.00	0.00	0.00	
Wetland - Depressions on Peat substrates (H7150)	Wetland	0.00	0.00	0.00	
Wetland - Eres (upland and lowland)	Wetland	0.00	0.00	0.00	
Wetland - Lowland raised bog	Wetland	0.00	0.00	0.00	
Wetland - Oceanic Valley mire (1) (D2.1)	Wetland	0.00	0.00	0.00	
Wetland - Purple moor grass and rush pastures	Wetland	0.00	0.00	0.00	
Wetland - Transition mires and quaking bogs (H7140)	Wetland	0.00	0.00	0.00	
Woodland and forest - Wood pasture and parkland	Woodland and forest	0.00	0.00	0.00	
Rocky shore - High energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock - on peat, clay or chalk	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral seagrass on peat, clay or chalk	Intertidal sediment	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Very High Distinctiveness Summary

Very High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
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### High Distinctiveness

Habitat group	Group	On Site Unit Change	Off Site Unit Change	Project wide Unit Change	Losses not yet accounted for
Grassland - Traditional orchards	Grassland	0.00	0.00	0.00	
Grassland - Rhododendron Wooded Moorland (K10M)	Grassland	0.00	0.00	0.00	
Grassland - Lowland calcareous grassland	Grassland	0.00	0.00	0.00	
Grassland - Tall herb communities	Grassland	0.00	0.00	0.00	
Grassland - Upland calcareous grassland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Lowland Heathland	Grassland	0.00	0.00	0.00	
Heathland and shrub - Sea buckthorn scrub (Annex 1)	Heathland and shrub	0.00	0.00	0.00	
Heathland and shrub - Upland Heathland	Heathland and shrub	0.00	0.00	0.00	
Lakes - High alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Low alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Mire Lakes	Lakes	0.00	0.00	0.00	
Lakes - Moderate alkalinity lakes	Lakes	0.00	0.00	0.00	
Lakes - Peat lakes	Lakes	0.00	0.00	0.00	
Lakes - Shrub (Oxeye) Habitat	Lakes	0.00	0.00	0.00	
Lakes - Temporary lakes, ponds and pools	Lakes	0.00	0.00	0.00	
Sparsely vegetated land - Coastal sand dunes	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Coastal vegetated shingle	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Inland rock outcrop and scree habitats	Sparsely vegetated land	0.00	0.00	0.00	
Sparsely vegetated land - Maritime cliff and slopes	Sparsely vegetated land	0.00	0.00	0.00	
Urban - Open Moors Habitats on Previously Developed Land	Urban	0.00	0.00	0.00	
Wetland - Reeds/beds	Wetland	0.00	0.00	0.00	
Woodland and forest - Felled	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland beech and new woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Lowland mixed deciduous woodland	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Native pine woodlands	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland birchwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland mixed alderwoods	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Upland oakwood	Woodland and forest	0.00	0.00	0.00	
Woodland and forest - Wet woodland	Woodland and forest	0.00	0.00	0.00	
Coastal lagoons - Coastal lagoons	Coastal lagoons	0.00	0.00	0.00	
Rocky shore - High energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Moderate energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Low energy littoral rock	Rocky shore	0.00	0.00	0.00	
Rocky shore - Features of littoral rock	Rocky shore	0.00	0.00	0.00	
Intertidal sediment - Littoral mud	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral mixed sediments	Intertidal sediment	0.00	0.00	0.00	
Coastal saltmarsh - Saltmarshes and saline reeds/beds	Coastal Saltmarsh	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reeds - Masses	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral biogenic reeds - Sub-habit	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Features of littoral sediment	Intertidal sediment	0.00	0.00	0.00	
Intertidal sediment - Littoral muddy sand	Intertidal sediment	0.00	0.00	0.00	
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### High Distinctiveness Summary

High Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Unit Deficit: Like for like not satisfied	0.00

### Medium Distinctiveness

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

### Medium Distinctiveness Summary

Medium Distinctiveness Units available to offset lower distinctiveness deficit	0.00
Medium Distinctiveness Broad Habitat Deficit to be offset by trading up	0.00
Higher distinctiveness surplus units minus Medium Distinctiveness Broad Habitat Deficit	0.00
Cumulative surplus of units	0.00

### Low Distinctiveness

Habitat group	Group	On site unit change	Off Site Unit Change	Project wide unit change
Cropland - Cereal crops	Cropland	0.00	0.00	0.00
Cropland - Cereal crops other	Cropland	0.00	0.00	0.00
Cropland - Horticulture	Cropland	0.00	0.00	0.00
Cropland - Intensive orchards	Cropland	0.00	0.00	0.00
Cropland - Non-cereal crops	Cropland	0.00	0.00	0.00
Cropland - Temporary grass and cover lvs	Cropland	0.00	0.00	0.00
Grassland - Modified grassland	Grassland	0.00	0.00	0.00
Grassland - Bracken	Grassland	0.00	0.00	0.00
Heathland and shrub - Rhododendron scrub	Heathland and shrub	0.00	0.00	0.00
Lakes - Ornamental lake or pond	Lakes	0.00	0.00	0.00
Sparsely vegetated land - Ruderal/Ephemeral	Sparsely vegetated land	0.00	0.00	0.00
Urban - Blotwork	Sparsely vegetated land	0.00	0.00	0.00
Urban - Aliments	Urban	0.00	0.00	0.00
Urban - Facade-bound green wall	Urban	0.00	0.00	0.00
Urban - Ground based green wall	Urban	0.00	0.00	0.00
Urban - Ground level planters	Urban	0.00	0.00	0.00
Urban - Extensive green roof	Urban	0.00	0.00	0.00
Urban - Intertiled shrub	Urban	0.00	0.00	0.00
Urban - Rain garden	Urban	0.00	0.00	0.00
Urban - Sand pit quarry or open cast mine	Urban	0.00	0.00	0.00
Urban - Urban Tree	Urban	0.00	0.00	0.00
Urban - Sustainable urban drainage feature	Urban	0.00	0.00	0.00
Urban - Vegetated kerb land bare around	Urban	0.00	0.00	0.00
Urban - Vegetated park	Urban	0.00	0.00	0.00
Woodland and forest - Other coniferous woodland	Woodland and forest	0.00	0.00	0.00
Coastal saltmarsh - Artificial saltmarshes and saline reeds/beds	Coastal saltmarsh	0.00	0.00	0.00
Intertidal sediment - Artificial littoral coarse sediment	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral mud	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral mixed sediment	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral pebbles	Intertidal sediment	0.00	0.00	0.00
Intertidal sediment - Artificial littoral biogenic reek	Intertidal sediment	0.00	0.00	0.00
Intertidal Hard Structures - Artificial hard structures	Intertidal	0.00	0.00	0.00
Intertidal Hard Structures - Artificial features of hard structures	Intertidal	0.00	0.00	0.00
Heathland and shrub - Sea buckthorn scrub (other)	Heathland and shrub	0.00	0.00	0.00
		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Low Distinctiveness Summary

Low Distinctiveness Surplus Units	0.00
Cumulative surplus of units	0.00

## APPENDIX K: Pen portraits of key contributors

Table 32: Key contributors pen portraits

Surveyor	CV details
Brandon Murray (Associate Technical Director) BSc(hons) MCIEEM	Brandon has been a professional ecologist for over eleven years and has been conducting biodiversity net gain assessments for over four years.
Tobias Betts (Graduate Ecologist) BSc MSc ACIEEM	Tobias has been a professional ecologist for 3 years and has been undertaking biodiversity net gain assessments using the Defra Metric 2.0 and 3.0 for most of that time.
Liam Price (Ecologist) MBIol (hons) ACIEEM	Liam has been a professional ecologist for over 3 years. During this time, he has gained extensive experience with biodiversity net gain assessments, including on large scale infrastructure projects. Liam is qualified to carry out river condition assessments.

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