



# Didcot Garden Town HIF 1 Scheme

Biodiversity Net Gain Assessment

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# 1. Introduction

## 1.1 Background

- 1.1.1 AECOM Ltd was commissioned by Oxfordshire County Council (OCC) to undertake a Biodiversity Net Gain (BNG) assessment for the Didcot Garden Town HIF 1 Scheme (herein referred to as the Scheme). The Scheme will provide a transport strategy to accommodate the significant housing and employment growth anticipated by 2031 in the Science Vale area. The Scheme will extend through a mixture of agricultural land, with an active power station site, an old power station site currently undergoing redevelopment, an industrial estate, a live landfill site and a restored quarry.
- 1.1.2 It is government policy that planning decisions should minimise impacts on and provide net gain for biodiversity (National Planning Policy Framework, 2021). The 2011 – 2035 South Oxfordshire District Council (SODC) Local Plan<sup>1</sup>, states that *‘Development that will conserve, restore and enhance biodiversity in the district will be supported. All development should provide a net gain in biodiversity where possible’*.
- 1.1.3 In addition, the Environment Bill<sup>2</sup>, published by the UK Government in October 2019, includes proposals to make BNG a mandatory requirement within the planning system in England. Once enshrined in law it will require all developments<sup>3</sup> to achieve a minimum 10% net gain in biodiversity units relative to the site’s baseline biodiversity value.
- 1.1.4 The BNG assessment has been undertaken to quantify the overall effect on biodiversity and to inform the habitat mitigation requirement using Natural England’s Biodiversity Metric 3.0<sup>4</sup> in accordance with the accompanying guidance<sup>5</sup> and best practice principles<sup>6</sup>. This report sets out the results of the BNG assessment. The methodology for the assessment is outlined in Section 2, the results are presented in Section 3 and the conclusions are provided in Section 4.

## 1.2 Site Description

- 1.2.1 Land use within the Scheme boundary is a mixture of agricultural land, an active power station site, an old power station site (Didcot A Power Station) currently undergoing redevelopment, an industrial estate, a former landfill site and an active landfill site and a sand quarry. Several water bodies are also present within the Scheme boundary. Refer to ES Chapter 9: Biodiversity; ES Chapter 8: Landscape and Visual; ES Chapter 14: Road Drainage and the Water Environment for further description of the Site.

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<sup>1</sup> South Oxfordshire District Council, 2020. South Oxfordshire Local Plan 2011-2035 Available at: <https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2021/02/SODC-LP2035-Publication-Feb-2021.pdf> [Accessed September 2021].

<sup>2</sup> The Environment Bill 2019

<sup>3</sup> All development under the scope of the Town and Country Planning Act (2019)

<sup>4</sup> Natural England’s Biodiversity Biodiversity Metric 3.0 <http://publications.naturalengland.org.uk/publication/6049804846366720>

<sup>5</sup> Natural England (2019). The Biodiversity Metric 3.0 – User Guide & Technical Supplement

<sup>6</sup> Biodiversity Net Gain: Good Practice Principles for Development, A Practical Guide (2019).

## 1.3 The Scheme

1.3.1 Brief descriptions of the Scheme are provided below:

- A4130 Widening – The proposed improvement to the A4130 includes dualling between Milton Interchange at the A34 and a proposed new Science Bridge. The proposal also includes the provision of new and improved pedestrian and cycling facilities to meet modern standards;
- Didcot Science Bridge – A new road link from the proposed dualled section of the A4130, which will extend over the Great Western Railway, through the former Didcot A Power Station site and join to the A4130 north of the Purchas/Hawksworth roundabout, including segregated pedestrian and cycling infrastructure;
- Didcot to Culham River Crossing – a new road between the A4130 perimeter road in Didcot, and Culham near the Science Centre including two overbridges (one extending over the River Thames) and segregated pedestrian and cycling infrastructure; and
- Clifton Hampden Bypass – a new road between the A415, Abingdon Road, at the Culham Science Centre (CSC) and the B4015, Oxford Road, north of Clifton Hampden village, including shared pedestrian and cycling infrastructure.

1.3.2 Full details of the design of the Scheme can be found in Chapter 2: The Scheme, of the Environmental Statement (ES).

## 2. Methodology

### 2.1 Biodiversity metric 3.0

- 2.1.1 A BNG assessment involves making a comparison between the biodiversity value of habitats present within the Site prior to a development (i.e. the 'baseline') and the predicted biodiversity value of habitats following the completion of the development (i.e. 'post-development'). The comparison is made in terms of 'biodiversity units', with a 'biodiversity metric' providing the mechanism to allow biodiversity values to be calculated and compared.
- 2.1.2 Biodiversity Metric 3.0 calculates the overall loss or gain of biodiversity of development projects by assessing the distinctiveness (i.e. type of habitat and its value), condition, extent, ecological connectivity and strategic significance of habitats on site pre and post-development. To achieve biodiversity net gain, the biodiversity unit score must have a post-development score higher than the baseline score. When calculating the post development biodiversity units, the metric includes a series of standard 'risk multipliers' to account for the inherent risk of creating and restoring habitats, the time taken to establish habitats and the location of the mitigation in relation to the habitats lost on site. The risk multipliers have the effect of reducing the value of the proposed habitats, which means larger areas, habitats of higher distinctiveness, and/or condition are required to achieve net gain.
- 2.1.3 The metric assesses and generates separate outputs for area-based habitats<sup>7</sup> (measured in habitat units) and linear-based habitats, including hedgerows (measured in hedgerow units) and rivers (measured in river units). For the BNG assessment, the output with the lowest value is used to determine whether there has been a gain in biodiversity. A development cannot claim to achieve an overall net gain unless this is predicted across all area-based and linear based habitats that are due to be impacted.
- 2.1.4 The information required to undertake the calculation is described below.

### 2.2 Baseline data

- 2.2.1 The Phase 1 habitat data collected by AECOM in September 2020<sup>8</sup> (hereafter referred to as 'the baseline') have been utilised to determine the baseline area-based and linear -based habitats (hedgerows). All the habitats recorded within the Site were converted from standard Phase 1 habitat types<sup>9</sup> to UK Habitat Classification categories<sup>10</sup>, before being digitised in Geographic Information System (GIS) to provide area and length measurements of each habitat type (the Baseline Habitat Plan is provided in Appendix A).
- 2.2.2 All baseline habitats defined within the Site were assigned a condition retrospectively post-survey, based on assumptions informed by baseline information available for the Site, professional judgement and application of the condition assessment criteria outlined in the Biodiversity Metric 3.0 – Technical Supplement<sup>11</sup>. The data was aggregated and entered in the metric to calculate the baseline biodiversity units.

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<sup>7</sup> This includes all area-based terrestrial and intertidal habitats. All habitats from the low water mark to the high-water mark can and should be assessed using Metric 3.0 where they are impacted by development. Any marine habitats beyond the low water mark cannot be assessed using Metric 3.0.

<sup>8</sup> AECOM Preliminary Ecological Appraisal September 2020

<sup>9</sup> Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey – a technique for environmental audit. Joint Nature Conservation Committee, Peterborough.

<sup>10</sup> <https://ukhab.org/>

<sup>11</sup> Natural England (2021). The Biodiversity Metric 3.0 – User Guide & Technical Supplement

## 2.3 River habitats

- 2.3.1 Habitat categories, associated distinctiveness and condition scores are approached differently for rivers in line with current guidance<sup>12 13</sup>. Following this methodology, a desk study was undertaken to identify all river habitats present within the Scheme using the web-based 'Discovering Priority Habitat in England' river data map<sup>14</sup>. Habitats were assigned a habitat category and distinctiveness using a combination of The Natural Environment and Rural Communities Section 41<sup>15</sup>, Priority Habitat descriptions.
- 2.3.2 To assess condition of river habitats a Modular River Survey (MoRPh) was undertaken by accredited surveyors for each watercourse scoped into the assessment. The survey followed the MoRPh5 survey methodology<sup>16</sup> and assessment guidance<sup>17</sup> which involves assessing watercourse condition based on morphological features of river condition and includes noting characteristics of the riparian zone associated with the watercourse (vegetation/features within 10m of each bank top). Data was then inputted into the online portal which calculates the preliminary condition score for all watercourses. Final analysis was completed to provide condition scores that were input into the metric to generate the baseline river units.
- 2.3.3 Where it was not possible to complete a MoRPh survey to determine condition, as per the guidance, condition was assigned retrospectively using data collected from River Habitat Survey (RHS).
- 2.3.4 Ditches are assessed separately to rivers and streams and are defined for Biodiversity Metric 3.0 as "artificially created, linear water-conveyancing features that are less than 5 m wide and are likely to hold water for more than four months of the year. Their hydraulic function is primarily for land drainage and although partially or fully connected to a river system, they would not have been present without human intervention." Any waterbodies that have been scoped into the assessment as ditches under this definition are therefore subjected to a Ditch Condition Assessment which uses eight criteria including water quality and levels, macrophyte abundance and morphotype diversity, presence of marginal vegetation, physical damage, shading and presence of invasive non-native species. The greater the number of criteria the ditch passes on, the better the condition score attributed to it.

## 2.4 Post-development data

- 2.4.1 The Landscape Plan has been used to determine the extent and type of habitats to be retained and created post-development. Habitats in the Landscape Plan were converted to UK Habitat Classification categories before being digitised into GIS to produce the 'Post-Development' Plan (see Appendix B). Target condition scores for the proposed habitats were selected in accordance with Biodiversity Metric 3.0 User Guide and Technical Supplement using professional judgement to ensure the condition scores selected were realistic. The data was utilised to predict the post development biodiversity units.

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<sup>12</sup> Natural England and other parties 2021. Biodiversity Metric 3.0 – Auditing and accounting for biodiversity - User Guide.

<sup>13</sup> Natural England 2021. Biodiversity metric 3.0: Auditing and accounting for biodiversity – Technical Supplement.

<sup>14</sup> Discovering Priority Habitats in England. River data - <https://priorityhabitats.org/rivers-data/>

<sup>15</sup> Natural England. 2006. Natural Environment and Rural Communities Act.

<sup>16</sup> MoRPh Field Guide 2019.

<sup>17</sup> A Guide to Assessing River Condition July 2019.

## 2.5 Strategic significance

2.5.1 Metric 3.0 requires that the strategic significance of all baseline and post-development habitats to be defined. Strategic significance refers to habitats or areas of local priority for biodiversity and nature improvement, identified within local planning policies (Appendix C). As part of this assessment, the following local planning policy documents were reviewed to determine the strategic significance of the habitats on Site:

- Biodiversity and Planning in Oxfordshire ;
- Oxfordshire Plan 2050 – Securing Nature’s Benefits;
- Oxfordshire Biodiversity Action Plan (Wild Oxfordshire);
- SODC Local Plan – 2035; and
- Vale of White Horse District Council (VoWHDC) Local Plan Part 1 and 2, 2031.

## 2.6 Assumptions

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

- all habitats within the red line boundary have been included within the calculation to provide the baseline and post-development biodiversity values;
- the (interim) assessment is based on the (preliminary) design illustrated in the Landscape plan. This includes any permanent and temporary loss of habitats. The assessment may need to be updated at detailed design;
- All habitat areas and lengths have been measured manually using ArcGIS based on the Phase 1 Habitat Plan and the Landscape Plan, as such habitat areas are approximations only;
- Where habitat condition has been assigned retrospectively using Phase 1 habitat data, a reasonable precautionary approach has been adopted to prevent underestimating the value of the baseline habitat;
- all Phase 1 habitat types were converted to the most relevant UK Habitat Classification type by an ecologist, in accordance with the Natural England’s Metric 3.0 metric tool, refer to Appendix G. The post-development habitats have been assumed based on the Landscape Plan subsequently converted to UK Habitat Classification types;
- strategic significance has been assessed using the documents identified in Section 2.5. Habitats on-site with ecological value determined by their presence within the Oxfordshire Biodiversity Action Plan, were assigned moderate strategic significance;
- The Scheme will only result in those impacts to the watercourse as described in this report within the post development section below;
- It is assumed that any enhancements considered necessary and feasible in relation to BNG proposed in this report will be incorporated into the detailed design;
- River habitat condition was determined for Moor Ditch, Meadow Brook and Stert Brook using MoRPh survey techniques. A ditch condition assessment was undertaken on Watercourse 03. Assumptions and professional judgement were applied for all other un-named watercourses on site where field surveys were not undertaken;

- River condition assessment site visits were not considered necessary on the River Thames (as shown in Appendix A of the Aquatic Ecology Report<sup>19</sup>) as information from RHS<sup>18</sup> was utilised to assess condition and complete MoRPh survey proforma retrospectively to inform the Metric 3.0 calculation. The River Thames was assigned a habitat condition score retrospectively using a reasonable precautionary approach and professional judgement to prevent underestimating the value of the baseline habitat;
- The Flood Risk Assessment identified that the banks adjacent to the new culverts on Meadow Brook would need to be raised by approximately 0.1 m to 0.2 m and this would be required across a length of 116 m of the bank top. This will be carried out with earth that can revegetate and it is assumed that it would be replanted with riparian vegetation. It is assumed for the purposes of this report that this raising of the banks will be set back greater than 10 m from the bank top of Meadow Brook and will therefore not impact upon its riparian zone;
- Dry ditches on site have been included within the adjacent habitat for this assessment, and excluded from the river metric assessment as it fails to meet the definition for a ditch with the metric<sup>19</sup>;
- habitats created as part of the Scheme will be subject to appropriate ongoing management and monitored to ensure correct establishment and growth, and that remedial action will be taken if this does not proceed as expected, otherwise the target conditions used in the calculations may not be met and the biodiversity units will not be achieved;
- all habitats within construction areas have been assumed to be removed, due to likely impacts via the storage of spoil piles or construction-phase compounds, and reinstated to their original state post-development; all hedgerows have been assumed to be permanently lost; and
- final habitat areas are assumed to be correct from CAD files and correspondence sent between AECOM and the Landscape Design architects.

## 2.7 Constraints

2.7.1 Habitat conditions were assigned retrospectively using the information within the PEA and a review of aerial imagery. The following limitations also apply:

- The area of the Scheme footprint and the habitat created exceeds the area of habitat lost. It should be noted that it is not the area/length of habitat created that determines whether ecological equivalence or better has been achieved but the net change in biodiversity units. Risks associated with creating or enhancing habitats mean that it may be necessary to create or enhance a larger area of habitat than that lost, to fully compensate for impacts on biodiversity.
- The river condition assessment survey utilises the MoRPh survey methodology, which assesses watercourse condition based on morphological features, not biological elements of river condition; these are assessed in other reports associated with the Scheme.
- At present, the calculation of river units is based on the assumption that the Scheme will only result in those impacts to the watercourse as described in this report, within the post development section below. Therefore, if finalised designs in relation to the Scheme deviate from this assumption and impacts to the river and/or its riparian zone differ from those included in this report, the

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<sup>18</sup> AECOM, 2020. Didcot Garden Town HIF 1 – Aquatic Ecology Report.

<sup>19</sup> Natural England (2021). The Biodiversity Metric 3.0 – User Guide & Technical Supplement

River Metric calculations would need to be updated, and may result in a change to river units.

- If the Scheme boundary changes, there is potential that more MoRPh surveys could be required, and calculation of river units would also need to be repeated in this instance.
- If proposed enhancements are not implemented into the detailed design, there is potential for a greater loss of river units, and the River Metric calculations would need to be updated accordingly.
- The proposed outfalls on Moor Ditch and Meadow Brook are to be designed in line with the existing watercourse profiles, but as the designs are not finalised at the time of writing this report, a precautionary 'worse-case scenario' approach was undertaken and it is assumed that they will extend 2 m along watercourse banks.

## 3. Results

### 3.1 Biodiversity Metric 3.0 Calculation Tool Output

#### On-site Baseline Habitats

3.1.1 The Site covers a total area of approximately 155 ha. The habitats identified on Site prior to development vary in ecological value, ranging from very low to high distinctiveness.

3.1.2 Strategic significance has been assigned based on local planning policies (Appendix C). Habitats defined in local plans have been assigned medium strategic significance. For example, priority ponds, lowland mixed deciduous woodland and hedgerows.

3.1.3 The following descriptions provide further information on the baseline habitats within the Site and their condition (justifications are provided in Appendix E).

#### Buildings and hardstanding (Urban – Developed land; sealed surface; sand pit quarry or open cast; vacant/derelict/bareground)

3.1.4 There are areas of hardstanding within the Site, mainly consisting of existing local and access roads and other areas of hardstanding associated with buildings/other developments.

3.1.5 There are small areas of bare ground associated with the former gravel extraction sites, south of the River Thames.

3.1.6 These areas have been categorised in UK Habitats as 'Urban – Developed land; sealed surface'. The habitat has a condition of 'N/A – Other' which is pre-set within the metric. It has been assessed as having low strategic significance due the habitat having no biodiversity value.

#### Grassland – Semi-improved grassland

3.1.7 There are large areas of poor semi-improved grassland associated with the former landfill (south and west of Appleford) and former gravel extraction areas. These consist of Cocksfoot, Red Fescue, Ribwort Plantain, Dandelion *Taraxacum officinalis* aggregate, Yarrow *Achillea millefolium* and Yorkshire Fog. A grass, a *Miscanthus* species was also recorded in the landfill area.

3.1.8 These areas of poor semi-improved grassland have been categorised in UK Habitats as 'Grassland – other neutral grassland'. The habitat has been assigned a 'poor' condition. They have been assigned low strategic significance due to the habitat being of limited biodiversity value.

3.1.9 In other locations not associated with the former landfill (south and west of Appleford) and former gravel extraction areas; semi-improved grassland (other neutral) have been assigned a "moderate" condition. They have been assigned medium strategic significance as they are considered significant for nature.

#### Grassland - Modified Grassland

3.1.10 There are large areas across the Site which are improved grassland consisting mainly of Perennial Rye-grass. Some southern parts of the Site were being grazed by sheep at the time of the survey.

- 3.1.11 There is a small section of amenity grassland in the north-eastern section of the Site, on the south side of Abingdon Road. They are playing fields associated with the school on the northern side of the road.
- 3.1.12 These areas of improved grassland have been categorised in UK Habitats as 'Grassland – Modified grassland'. The habitat has been assigned a 'poor'. They have been assigned 'low' strategic significance due to the habitat being of limited biodiversity value.

Arable land (Cropland – Cereal crops)

- 3.1.13 Arable land makes up a large proportion of the Site, located primarily within the Didcot to Culham River Crossing and the Clifton Hampden section of the Scheme to the north, especially along the either side of Abingdon Road and at the northern end of Oxford Road, there are several arable fields. On the eastern side of Oxford Road, the field edge contains an arable margin. There are also arable fields on the very southern edge of the Site to the south of A4130.
- 3.1.14 These areas of arable land have been categorised in UK Habitats as 'Cropland – Cereal crops'. The habitat has been assigned a 'N/A - Agricultural' which is pre-set within the metric. It has been assigned 'low' strategic significance as the habitat has limited biodiversity value.

Dense/continuous scrub (Heathland and shrub – Mixed scrub)

- 3.1.15 There are several of areas of scrub associated with the Site - these consisted of Bramble *Rubus fruticosus* aggregate, Hawthorn *Crataegus monogyna*, Common Nettle *Urtica dioica*, Common Ragwort *Senecio jacobaea*, Dog Rose *Rosa canina* aggregate and Spear Thistle *Cirsium vulgare*.
- 3.1.16 These areas of dense/continuous scrub have been categorised in UK Habitats as 'Heathland and shrub – Mixed scrub'. The habitat has been assigned a 'poor to moderate.' It has been assigned 'low' strategic significance, as the habitat has limited biodiversity value.

Sparsely vegetated land – Ruderal/Ephemeral)

- 3.1.17 There are areas of tall ruderal habitat which occur along the length of the Site. These comprise species including Spear Thistle, Broad-leaved Dock, Common Ragwort, Creeping Thistle, Cocksfoot, False Oat-grass, Red Fescue and Creeping Bent.
- 3.1.18 This area of tall ruderal has been categorised in UK Habitats as 'Sparsely vegetated land – Ruderal/Ephemeral'. The habitat has been assigned a 'poor' condition. It has been assessed as having 'low' strategic significance as the habitat has limited biodiversity value.

Swamp - Wetland (Reedbed)

- 3.1.19 Swamp vegetation, consisting predominately of Common Reed, is located within wetland habitats of former settling ponds to the west of the B4016 and north of the capped landfill.
- 3.1.20 These areas of swamp have been categorised in UK Habitats as 'Wetland - reed Beds'. The habitat has been assigned a 'poor' condition. It has been assigned 'high' strategic significance with the habitat listed in local plans.

#### Woodland and forest – Lowland mixed deciduous woodland

- 3.1.21 The semi natural broad-leaved woodland occurs in several areas on Site, whilst there are narrow strips along the railway line across the southern section of the Site, as well as smaller areas along the remainder of the Site. Species in this habitat included Pedunculate Oak, Ash, Hawthorn, Ivy *Hedera helix* and *Salix* sp.
- 3.1.22 These areas of broadleaved semi-natural woodland have been categorised in UK Habitats as 'Woodland and forest – Lowland mixed deciduous woodland'. The habitat has been assigned a 'moderate' condition. It has been assigned 'high' strategic significance, with the habitat mentioned in local plans.

#### Woodland and forest – Other woodland (broad-leaved)

- 3.1.23 The semi natural broad-leaved woodland occurs in several areas on Site.
- 3.1.24 These areas of other broadleaved woodland have been categorised in UK Habitats as 'Woodland and forest – Other woodland-broadleaved'. The habitat has been assigned a 'poor'. It has been assigned 'low' strategic significance, as it is not mentioned in local plans.

#### Woodland and forest – Other woodland (mixed)

- 3.1.25 There are small areas of broadleaved plantation within the Culham Science Park and larger areas associated with the landscaping of the former landfill site.
- 3.1.26 These areas of mixed plantation woodland have been categorised in UK Habitats as 'Woodland and forest – Other woodland; mixed'. The habitat has been assigned a 'poor' condition. It has been assigned 'low' strategic significance, as it is not mentioned in local plans.

#### Dry Ditch – (Ditches)

- 3.1.27 There are several dry drainage ditches within the Site. They are mainly associated with agricultural land drainage.
- 3.1.28 Dry ditches have been categorised in UK Habitats as 'Ditches'. Due to being dry for more than 8 months of the year, the ditches do not meet the criteria to be considered in the Defra 3.0 Metric. Dry ditches are therefore not considered further in this report and has been included within the adjacent habitat.

#### Standing Water – Lakes - Ponds (Priority and Non-Priority Habitats)

- 3.1.29 There are several large waterbodies associated with former gravel extraction which due to their recent construction do not contain many plant species. There are also ponds further south which are large but are more established and therefore contain more vegetation around the edge (including Common Reed, Bramble, Common Reedmace and willow species, a *Salix* species).
- 3.1.30 Ponds range from 'poor to moderate' in condition; however only those that are 'Priority Habitats' and are assigned a 'high' strategic significance, with the habitat mentioned in local plans.

#### Native Hedgerows

- 3.1.31 There are many hedgerows within the Site, most of which are associated with the arable and improved grassland fields. There are also newly planted hedgerows related to the landscaping of the capped landfill site. Species included Hawthorn,

Blackthorn, Ash, Bramble, Dog Rose, Common Nettle, Elder, Hemlock *Conium maculatum*, Cow Parsley *Anthriscus sylvestris* and Spear Thistle.

- 3.1.32 All hedgerows within the site are species poor except a hedgerow located in the northern section of the Clifton Hampden Bypass section of the Scheme which is considered 'Important' in accordance with the Hedgerow Regulations, 1997. This hedgerow is the only species-rich (i.e. an average of 5 species or more) hedgerow on the site with important associated features.
- 3.1.33 Hedgerows on site varied in condition and range from 'poor to good'. Hedgerows with trees have been categorised in UK Habitats as 'Native Hedgerow with Trees', those without trees as 'Native Hedgerows' and those that are species rich are categorised as 'Native Species Rich Hedgerow'. Hedgerows have been assigned 'high' strategic significance, with the habitat mentioned in local plans.

#### River Thames

- 3.1.33.1 The River Thames flows west to east through the Didcot to Culham River Crossing section of the Scheme; 23 m of the river lies within the Scheme boundary, plus an additional 713 m of its riparian zone. The stretch surveyed during the RHS was generally unmodified and in natural condition. The RHS found that the riparian zone was well-developed, with mature alder and willow trees for most of the surveyed stretch. Based on the MoRPh survey completed retrospectively from RHS data it is considered to be in 'Moderate' condition – likely due to the fact that it was too deep to see the substrates on the riverbed. The River Thames is mentioned within the Thames River Basin Management Plan<sup>20</sup>. The stretch of this river that flows through the Scheme has therefore been recorded in the metric as 'Within River Basin Management Plan' and is therefore classed as being of high strategic significance within the metric.

#### Moor Ditch

- 3.1.34 Moor Ditch is a flowing watercourse that flows from west to east through the former Didcot A Power Station; 114m of the watercourse lies within the Scheme boundary. The surveyed stretch was low energy, realigned, over-deepened and culverted for 74 m under Purchas Road. The culverted section is considered to be of 'Poor' condition, which is the case for all culverts within the metric. The entire surveyed stretch of open watercourse consisted of run habitat and the riparian zone was predominantly vegetated with broadleaved trees, scrub and tall herbaceous vegetation. Based on the MoRPh survey, this open section of Moor Ditch is considered to be in 'Moderate' condition within the Scheme boundary. Moor Ditch is not a Priority River habitat and is not mentioned in the Local Plan, River Basin Management Plan or Catchment Plans and was therefore classed as 'Low potential/action not identified in any plan' which equates to a low strategic significance score within the metric.

#### Meadow Brook

- 3.1.35 Meadow Brook flows west to east along agricultural field boundaries, before being culverted under the A4130; 553 m of the watercourse lies within the Scheme boundary. The surveyed stretch, including the riparian zone, was generally unmodified and in natural condition, apart from one existing 3 m long culvert. The riparian zone was predominantly vegetated by tall herbaceous plants, broadleaved trees and scrub. As with the culvert in Moor Ditch, the culverted section in Meadow Brook is considered to be of 'Poor' condition. Based on the MoRPh survey, the 550 m of open watercourse is considered to be in 'Fairly Good' condition. Meadow Brook is not a Priority River habitat and was not mentioned in the Local Plan, River Basin

<sup>20</sup> Environment Agency. 2016. Part 1: Thames river basin district. River basin management plan.

Management Plan or Catchment Plans and was therefore classed as 'Low potential/action not identified in any plan'.

### Stert Brook

- 3.1.36 Stert Brook flows south to north within the A4130 Widening section of the Scheme boundary and is also culverted for 19 m under the existing A4130 before joining Moor Ditch. This culverted section is automatically assigned 'Poor' condition within the metric. A total of 76 m of Stert Brook is within the Scheme boundary, including the culverted section and 57 m of open watercourse. The surveyed stretch of open watercourse is likely historically realigned; however, the riparian zone was in natural condition and was vegetated by a diverse mixture of scrub, broadleaved trees and tall herbaceous plants. The MoRPh survey showed that Stert Brook is in 'Fairly Good' condition. Stert Brook is not a Priority River habitat and is not mentioned in the Local Plan, River Basin Management Plan or Catchment Plans and was therefore classed as 'Low potential/action not identified in any plan'.

### Watercourse 03

- 3.1.37 Watercourse 03 is a drainage ditch that flows east to west and then north to south through agricultural field boundaries in the northern section of the Scheme boundary, before being culverted under the B4015. A total of 288 m of the ditch is within the Scheme boundary and therefore included within the metric calculation. The condition of Watercourse 03 was determined to be 'Poor' using the ditch condition assessment methodology. Watercourse 03 is not a Priority River habitat and is not mentioned in the Local Plan, River Basin Management Plan or Catchment Plans and was therefore classed as 'Low potential/action not identified in any plan'.
- 3.1.38 River habitats, including the River Thames, Moor Ditch, Meadow Brook, Stert Brook and Watercourse 03 therefore total 1.77 km in length within the Scheme boundary.

### **On-Site Habitat Units**

- 3.1.39 The respective baseline biodiversity value for area-based and linear habitats (hedgerow and rivers) are provided in Table 1, 2, and 3 respectively. In total, the baseline biodiversity value of the habitats present was calculated as 558.37 habitat units, 32.32 hedgerow units and 20.97 river units.

**Table 1: Baseline area-based habitats**

Habitat type (UK Habitats)	Distinctiveness	Condition	Area (ha)	Habitat Units
Cereal crops	Low	N/A - Agricultural	5.58	11.16
Other neutral grassland	Medium	Moderate	4.76	41.89
Mixed scrub	Medium	Moderate	0.01	0.08
Ruderal/Ephemeral	Low	Poor	0.24	0.48
Developed land; sealed surface	V. Low	N/A - Other	1.36	0.00
Reedbeds	High	Poor	0.2	1.38
Lowland mixed deciduous woodland	High	Moderate	1.3	17.94
Cereal crops	Low	N/A - Agricultural	32.56	65.12
Modified grassland	Low	Poor	21.39	42.78
Other neutral grassland	Medium	Fairly Poor	11.13	73.46
Other neutral grassland	Medium	Moderate	0.05	0.44

Habitat type (UK Habitats)	Distinctiveness	Condition	Area (ha)	Habitat Units
Mixed scrub	Medium	Fairly Poor	9.89	59.34
Mixed scrub	Medium	Moderate	0.75	6.00
Mixed scrub	Medium	Poor	0.87	3.48
Ponds (Non- Priority Habitat)	Medium	Fairly Poor	0.65	3.90
Ponds (Non- Priority Habitat)	Medium	Moderate	0.23	1.84
Ponds (Non- Priority Habitat)	Medium	Poor	1.31	5.24
Ponds (Priority Habitat)	High	Moderate	3.76	51.89
Ponds (Priority Habitat)	High	Poor	3.85	26.57
Ruderal/Ephemeral	Low	Poor	20.93	41.86
Modified grassland	Low	Poor	0.38	0.76
Developed land; sealed surface	V. Low	N/A - Other	13.08	0.00
Sand pit quarry or open cast mine	Low	Poor	8.75	17.50
Vacant/derelict land/ bareground	Low	Poor	0.7	1.40
Reedbeds	High	Poor	1.06	7.31
Lowland mixed deciduous woodland	High	Fairly Poor	1.1	11.39
Lowland mixed deciduous woodland	High	Moderate	1	13.80
Lowland mixed deciduous woodland	High	Poor	6.46	44.57
Other woodland; broadleaved	Medium	Fairly Poor	0.18	1.08
Other woodland; mixed	Medium	Poor	1.43	5.72
<b>Total</b>	-	-	<b>154.96</b>	<b>558.37</b>

**Table 2: Baseline hedgerow habitats**

Hedgerow type (UK Habitats)	Distinctiveness	Condition	Length (km)	Hedgerow Units
Native Hedgerow	Low	Poor	4.4	10.12
Native Hedgerow	Low	Poor	1.48	3.40
Native Hedgerow	Low	Moderate	1.24	5.70
Native Hedgerow	Low	Moderate	0.05	0.23
Native Hedgerow	Low	Poor	1.25	2.88
Native Hedgerow with trees	Medium	Poor	0.01	0.05
Native Hedgerow with trees	Medium	Good	0.05	0.69
Native Hedgerow with trees	Medium	Moderate	0.33	3.04
Native Species Rich Hedgerow with trees	High	Good	0.3	6.21
<b>Total</b>	-	-	<b>9.11</b>	<b>32.32</b>

**Table 3: Baseline linear based (rivers)**

River Habitat	Length within Scheme boundary (m)	Distinctiveness	Condition	Strategic Significance	Watercourse encroachment	Riparian encroachment	River Units
River Thames	736	High	Moderate	Within River Basin Management Plan	None	None	10.16
Moor Ditch	40	High	Moderate	Low potential/ action not identified in any plan	None	Major	0.36
Moor Ditch (existing culvert)	74	Low	Poor	Low potential/ action not identified in any plan	N/A - Culvert	None	0.15
Meadow Brook	550	High	Fairly Good	Low potential/ action not identified in any plan	None	None	8.25
Meadow Brook (existing culvert)	3	Low	Poor	Low potential/ action not identified in any plan	N/A - Culvert	None	0.01
Stert Brook	57	High	Fairly Good	Low potential/ action not identified in any plan	None	None	0.86
Stert Brook (existing culverts)	19	Low	Poor	Low potential/ action not identified in any plan	N/A - Culvert	None	0.04
Watercourse 03	288	Medium	Poor	Low potential/ action not identified in any plan	None	None	1.15
<b>Total River Length</b>	<b>1.77 km</b>	-	-	-	-	<b>Total River Units</b>	<b>20.97</b>

### Post-Development Habitats

3.1.40 The proposed Landscape Plan includes provision of several habitats including cropland, modified grassland, neutral grassland, scrub, ponds, hedgerows, reedbeds, woodland and individual trees. The habitats identified on Site post-development vary in ecological value, ranging from very low to high distinctiveness.

3.1.41 The management regime required for the created habitats to reach their target condition in the specified timeframe is provided in Appendix F.

- 3.1.42 Habitats such as Ponds (Priority habitats), Lowland mixed deciduous woodland, Reed beds and Hedgerows were assigned 'high' strategic significance as these habitats are mentioned in local plans.

### Post-Development habitat units

- 3.1.43 The Post-Development biodiversity value of the habitats (retained and created) was calculated as 243.68 for retained habitat units (Table 4) and 376.74 for created habitat units (Table 7); 14.95 for retained hedgerow units (Table 5) and 21.69 created hedgerow units (Table 8); 6.19 retained river units (Table 6), 0.33 created river units (Table 9) and 14.71 enhanced river units (Table 10).
- 3.1.44 All habitats present within the baseline plan and the Scheme, including baseline, retained, and created are presented within the accompanying biodiversity metric calculation tool assessment for the Scheme; refer to Appendix G.

### River Thames

- 3.1.45 A total of 4 m of the River Thames will be retained at current condition within the Scheme boundary. Enhancements of 713 m are proposed. This should involve planting a diverse structure of riparian vegetation within its riparian zone in to re-naturalise the riparian zone and improve the condition to 'Fairly Good'.
- 3.1.46 A clear-span bridge (viaduct) is set to cross the river within the Scheme boundary and therefore will not have any impacts within the watercourse. However, 52 m<sup>2</sup> of the proposed bridge foundations on the left bank and 41 m<sup>2</sup> of the foundations on the right bank are set to be located within the riparian zone (classed as within 10 m from the bank top). Therefore, this will result in a loss of river units and is dealt with as creation of moderate habitat with moderate encroachment in the riparian zone within the metric.

### Moor Ditch

- 3.1.47 None of the open section of Moor Ditch will be retained at current condition within the boundary of the Scheme as 38 m of enhancements are recommended. This would involve planting a diverse structure of riparian vegetation on both banks, either side of the culvert. The current culvert under Purchas Road is set to be replaced by a new and improved box culvert which will be 34 m shorter than the existing culvert. This will therefore be classed as an enhancement within the metric. The new 40 m long culvert would also improve habitat connectivity and biodiversity within Moor Ditch, by incorporating environmental mitigation measures such as a mammal ledge to allow passage of riparian mammals through it.
- 3.1.48 One outfall is proposed for Moor Ditch, but the structure is proposed to be flush with the banks and 2 m long. This is dealt with as a loss of habitat due to major encroachment within the riparian zone (0 – 4 m from the bank top) within the metric, and the creation of moderate habitat contiguous with the enhanced section. This outfall, and those for Meadow Brook described below, are considered to impact upon habitat functionality in the riparian zone and are therefore assessed in this way in the Metric.

### Meadow Brook

- 3.1.49 A total of 291 m of Meadow Brook is proposed to be retained at current condition within the Scheme boundary. A stretch of 150 m has been proposed for enhancements in the pWFD report (AECOM, 2021) and should also include planting

a diverse structure of riparian vegetation on both banks and de-silting the watercourse.

- 3.1.50 The construction of two box culverts will result in the 'creation' of 103 m of watercourse in 'Poor' condition; however, the natural channel bed will be retained in these culverts. Three 2 m long outfalls are also proposed for Meadow Brook, which has been classed as creation of 'Fairly Good' habitat as the impacts will be limited to the riparian zone. This is dealt with as a loss of habitat due to major encroachment within the riparian zone (0 – 4 m from the bank top) within the metric.

#### Stert Brook

- 3.1.51 Within the Scheme boundary, a total of 33 m of Stert Brook will be retained at current condition. No enhancements are proposed for this stretch within the current design proposal. One box culvert is proposed on this watercourse and as with the culverts proposed for Meadow Brook, the natural channel bed will be retained within this culvert. The proposed culvert will be 24 m long and therefore is treated as the creation of 24 m of 'Poor' habitat within the metric.

#### Watercourse 03

- 3.1.52 The entire length of Watercourse 03 (288 m) is set to be retained at current condition within the Scheme boundary. No enhancements or creation are proposed for this ditch within the current design proposals.
- 3.1.53 There is a total of 678 m of river habitat being retained, 154 m being created and 935 m that will be enhanced within the Scheme boundary.

**Table 4: Retained habitats on-site**

Habitat type (UK Habitats)	Distinctiveness	Condition	Area retained (ha)	Habitat Units
Cereal crops	Low	N/A - Agricultural	1.23	2.46
Other neutral grassland	Medium	Moderate	1.82	16.02
Mixed scrub	Medium	Moderate	0.01	0.08
Ruderal/Ephemeral	Low	Poor	0.02	0.04
Developed land; sealed surface	V.Low	N/A - Other	0.08	0.00
Reedbeds	High	Poor	0.04	0.28
Lowland mixed deciduous woodland	High	Moderate	1.19	16.42
Cereal crops	Low	N/A - Agricultural	9.08	18.16
Modified grassland	Low	Poor	4.17	8.34
Other neutral grassland	Medium	Fairly Poor	5.32	35.11
Other neutral grassland	Medium	Moderate	0.05	0.44
Mixed scrub	Medium	Fairly Poor	4.92	29.52
Mixed scrub	Medium	Moderate	0.39	3.12
Mixed scrub	Medium	Poor	0.34	1.36
Ponds (Non- Priority Habitat)	Medium	Fairly Poor	0	0.00

Habitat type (UK Habitats)	Distinctiveness	Condition	Area retained (ha)	Habitat Units
Ponds (Non- Priority Habitat)	Medium	Moderate	0.21	1.68
Ponds (Non- Priority Habitat)	Medium	Poor	1.19	4.76
Ponds (Priority Habitat)	High	Moderate	1.06	14.63
Ponds (Priority Habitat)	High	Poor	3.57	24.63
Ruderal/Ephemeral	Low	Poor	5.3	10.60
Modified grassland	Low	Poor	0.32	0.64
Developed land; sealed surface	V.Low	N/A - Other	4.6	0.00
Sand pit quarry or open cast mine	Low	Poor	3.84	7.68
Vacant/derelict land/ bareground	Low	Poor	0.31	0.62
Reedbeds	High	Poor	0.9	6.21
Lowland mixed deciduous woodland	High	Fairly Poor	0.64	6.62
Lowland mixed deciduous woodland	High	Moderate	0.71	9.80
Lowland mixed deciduous woodland	High	Poor	3.31	22.84
Other woodland; broadleaved	Medium	Fairly Poor	0.13	0.78
Other woodland; mixed	Medium	Poor	0.21	0.84
<b>Total</b>	-	-	<b>54.96</b>	<b>243.68</b>

**Table 5: Retained hedgerows on-site**

Hedgerow type (UK Habitats)	Distinctiveness	Condition	Length retained (km)	Hedgerow Units
Native Hedgerow	Low	Poor	1.78	4.09
Native Hedgerow	Low	Poor	0.53	1.22
Native Hedgerow	Low	Moderate	0.56	2.58
Native Hedgerow	Low	Moderate	0.01	0.05
Native Hedgerow	Low	Poor	0.47	1.08
Native Hedgerow with trees	Medium	Poor	0.01	0.05
Native Hedgerow with trees	Medium	Good	0.02	0.28
Native Hedgerow with trees	Medium	Moderate	0.25	2.30
Native Species Rich Hedgerow with trees	High	Good	0.16	3.31
<b>Total</b>	-	-	<b>3.79</b>	<b>14.95</b>

**Table 6: Retained linear based (rivers)**

River Habitat Retained	Length (m)	Distinctiveness	Condition	Strategic significance	Watercourse encroachment	Riparian encroachment	River Units
River Thames	4	High	Moderate	Within River Basin Management Plan	None	None	0.06
Moor Ditch (existing culvert - shortened)	40	Low	Poor	Low potential/action not identified in local plan	None	None	0.08
Meadow Brook	291	High	Fairly Good	Low potential/action not identified in local plan	None	None	4.37
Meadow Brook (existing culvert)	3	Low	Poor	Low potential/action not identified in local plan	None	None	0.01
Stert Brook	33	High	Fairly Good	Low potential/action not identified in local plan	None	None	0.50
Stert Brook (existing culvert)	19	Low	Poor	Low potential/action not identified in local plan	None	None	0.04
Watercourse 03	288	Medium	Poor	Low potential/action not identified in local plan	None	None	1.15
<b>Total River Length</b>	<b>678</b>	-	-	-	-	<b>River Units</b>	<b>6.19</b>

**Table 7: Post-development created site habitat**

Habitat type (UK Habitats)	Distinctiveness	Target Condition	Time to Target (yrs)	Area created (ha)	Habitat Units
Other neutral grassland	Medium	Moderate	5	1.97	14.51
Other neutral grassland	Medium	Moderate	5	1.38	10.16
Modified grassland	Low	Poor	1	1	1.93
Modified grassland	Low	Poor	1	0.07	0.14
Modified grassland	Low	Poor	1	0.01	0.02
Developed land; sealed surface	V.Low	N/A - Other	0	3.82	0.00
Introduced shrub	Low	Poor	1	0.26	0.50
Vacant/derelict land/ bareground	Low	Poor	1	0.94	1.81
Reedbeds	High	Good	12	0.02	0.18

Habitat type (UK Habitats)	Distinctiveness	Target Condition	Time to Target (yrs)	Area created (ha)	Habitat Units
Other neutral grassland	Medium	Moderate	5	16.91	124.53
Other neutral grassland	Medium	Moderate	5	14	103.10
Other neutral grassland	Medium	Moderate	5	0.3	2.21
Hawthorn scrub	Medium	Moderate	1	0.08	0.54
Ponds (Non-Priority Habitat)	Medium	Moderate	1	0.09	0.65
Ponds (Non-Priority Habitat)	Medium	Moderate	1	0.34	3.41
Ponds (Priority Habitat)	High	Moderate	3	1.39	11.55
Ponds (Priority Habitat)	High	Moderate	3	0.14	1.16
Modified grassland	Low	Poor	1	9.29	17.93
Modified grassland	Low	Poor	1	0.16	0.31
Modified grassland	Low	Poor	1	0.9	1.74
Developed land; sealed surface	V.Low	N/A - Other	0	26	0.00
Introduced shrub	Low	Poor	1	0.48	0.93
Vacant/derelict land/ bareground	Low	Poor	1	0.52	1.00
Vacant/derelict land/ bareground	Low	Poor	1	13.75	26.54
Vacant/derelict land/ bareground	Low	Poor	1	0.08	0.15
Reedbeds	High	Good	12	1.81	16.37
Reedbeds	High	Moderate	7	0.18	1.63
Ponds (Priority Habitat)	High	Moderate	3	0.47	3.91
Lowland mixed deciduous woodland	High	Moderate	30+	0.24	0.35
Other woodland; broadleaved	Medium	Moderate	15	5.94	27.85
Ponds (Priority Habitat)	High	Moderate	3	0.05	0.40
Other neutral grassland	Medium	Moderate	5	0.08	0.59

Habitat type (UK Habitats)	Distinctiveness	Target Condition	Time to Target (yrs)	Area created (ha)	Habitat Units
Other neutral grassland	Medium	Moderate	5	0.02	0.15
Other neutral grassland	Medium	Moderate	5	0.07	0.52
<b>Total</b>	-			<b>102.76</b>	<b>376.74</b>

**Table 8: Post development created hedgerows**

Hedgerow type (UK Habitats)	Distinctiveness	Target Condition	Time to Target (yrs)	Length created (ha)	Hedgerow Units
Native Species Rich Hedgerow	Medium	Moderate	5	0.07	0.54
Line of Trees	Low	Moderate	20	0.16	0.36
Native Species Rich Hedgerow	Medium	Moderate	5	2.7	20.79
<b>Total</b>	-			<b>2.93</b>	<b>21.69</b>

**Table 9: Post development 'created' habitats – linear-based (rivers)**

River Habitat Created	Length (m)	Condition	Time to target condition (years)	Difficulty of creation	Watercourse encroachment	Riparian encroachment	River Units delivered
River Thames (bridge foundations)	19	Moderate	5	High	None	Moderate	0.06
Moor Ditch (outfall)	2	Poor	1	High	None	Major	0
Meadow Brook (2 culvert)	103	Poor	1	Low	N/A Culvert	None	0.2
Meadow Brook (3 outfalls)	6	Poor	1	High	None	Major	0.02
Stert Brook (culvert)	24	Poor	1	Low	N/A Culvert	None	0.05
<b>Total River Length</b>	<b>154</b>	-	-	-	-	<b>River Units</b>	<b>0.33</b>

**Table 10: Post development enhanced habitats – linear-based (rivers)**

River Habitat Enhanced	Length (m)	Condition	Time to target condition (years)	Difficulty of enhancement	Watercourse encroachment	Riparian encroachment	River Units delivered
River Thames (riparian planting)	713	Fairly Good	2	Medium	None	None	11.37
Moor Ditch (de-culverted section)	34	Fairly Good	10	Medium	None	None	0.28
Moor Ditch (riparian planting)	38	Fairly Good	2	Medium	None	None	0.53
Meadow Brook (riparian planting and de-silting)	150	Good	2	Medium	None	None	2.53
<b>Total River Length</b>	<b>935</b>	-	-	-	-	<b>River Units</b>	<b>14.71</b>

## 3.2 Summary of the results

3.2.1 All baseline habitats, created and retained, are present within the accompanying metric assessment for the Scheme (Appendix G).

3.2.2 A summary of the results is shown in Table 11. Based on the current Post-Development Plan, the Scheme is predicted to result in a net gain of 62.05 habitat units (11.11%) a net gain of 4.02 hedgerow units (13.37%), and a net gain of 0.26 river units (1.26%).

**Table 11: Summary of results**

<b>On-site baseline</b>	Habitat units	558.37
	Hedgerow units	32.32
	River units	20.97
<b>On-site post intervention (created and retained)</b>	Habitat units	620.42
	Hedgerow units	36.64
	River units	21.23
<b>Total net unit change</b>	Habitat units	62.05
	Hedgerow units	4.02
	River units	0.26
<b>Total net % change</b>	Habitat units	11.11%
	Hedgerow units	13.37%
	River units	1.26%

Total net % change' relates to the overall gain/ loss of biodiversity units

## 4. Conclusion and Recommendations

### 4.1 Conclusion and Recommendations

4.1.1 Based on the current proposals and outlined assumptions, the Scheme is predicted to result in an overall net gain of approximately 11.11% of habitat units, 13.37% of hedgerow habitats and 1.26% linear (river) habitat units.

4.1.2 Therefore, further habitat mitigation is required to achieve a minimum of a 10% net gain in biodiversity for river habitat units. It is recommended that river habitat creation and/or enhancement would need to achieve a minimum of 23.01 river units or a further 1.78 river units on top of current proposals to achieve 10% BNG.

4.1.3 Potential additional mitigation measures regarding river habitats, to be considered during detailed design could include:

- Additional riparian planting and buffer strips along the de-vegetated stretch of Meadow Brook, in the section to be de-culverted within Moor Ditch;
- De-silting of Meadow Brook;
- Enhancement of sections of Meadow Brook in line with the recommendations of the Water Framework Directive Assessment report to ensure 'no deterioration';
- Additional riparian planting along the banks of the River Thames alongside the Hanson Restoration Area, and adjacent to the temporary works area on the north bank to the west of the Scheme; and
- Eradication of riparian invasive non-native species (INNS) along watercourses within the Scheme boundary.

4.1.4 Ecological monitoring reports should be prepared to establish the success of the management measures specified and to determine if any further adaptive management is required to ensure the change in condition is achieved. Management & Monitoring Plans would need to be prepared for any on-site and off-site enhancement measures.

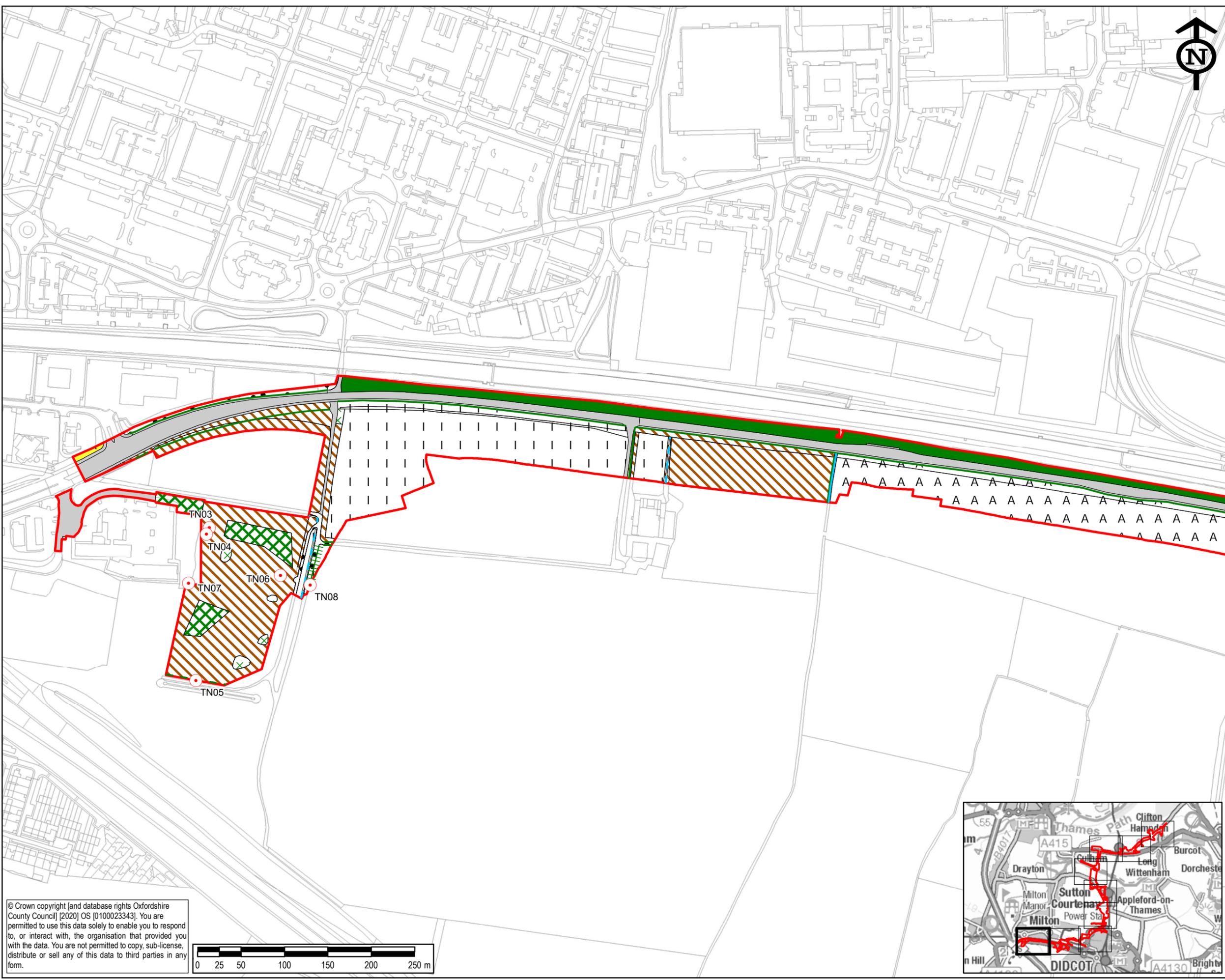
4.1.5 It is also recommended that consultation with Natural England, the Environment Agency and other stakeholders is undertaken to maximise opportunities for enhancement and on-site mitigation in line with current proposals, as described above.

### 4.2 Habitat Management

4.2.1 It is recommended that future monitoring is carried out to quantify the success of mitigation measures in relation to the River Thames, Moor Ditch, Meadow Brook and their riparian zones in terms of the River Condition Assessment and River Metric. Time to target condition needs to be considered regarding any proposed enhancements so a schedule of monitoring against river enhancement and creation objectives should be agreed and implemented.

# Appendix A Baseline Habitats Map

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IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT.

THIS DRAWING IS TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT.

**LEGEND**

- Indicative Red Line Boundary (Subject to Change)
- X Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Coniferous Parkland/Scattered Trees
- Target Note
- X Scrub - Scattered
- Running Water
- Intact Hedge - Species-Poor
- Defunct Hedge - Species-Poor
- W Hedge With Trees - Native Species-Rich
- H Hedge With Trees - Species-Poor
- H Fence
- Dry Ditch
- Broadleaved Woodland - Semi-Natural
- Broadleaved Woodland - Plantation
- Mixed Woodland - Plantation
- Scrub - Dense/Continuous
- Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Neutral Grassland - Semi-Improved
- I Improved Grassland
- Marsh/Marshy Grassland
- SI Poor Semi-Improved Grassland
- Other Tall Herb and Fern - Ruderal
- Swamp
- Standing Water
- Running Water
- Hardstanding
- S Spoil
- A Cultivated/Disturbed Land - Arable
- A Cultivated/Disturbed Land - Amenity Grassland
- X Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
FOR INFORMATION			

Client  
**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

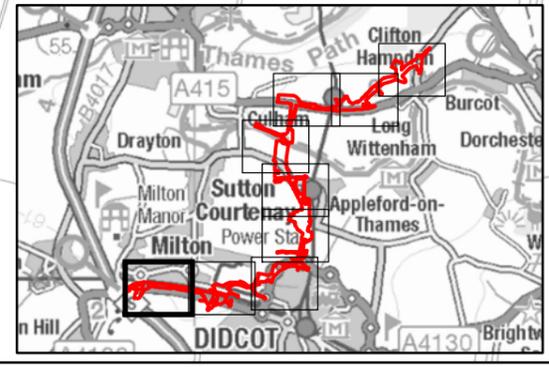
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**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 1 OF 9**

Designed SG	Drawn AG	Checked AB	Approved AB	Date 31/08/2021
Internal Project No. 60606782	Suitability S2			
Scale @ A3 1:4,000	Discipline Ecology			

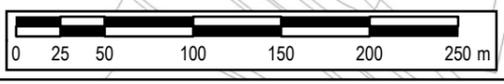
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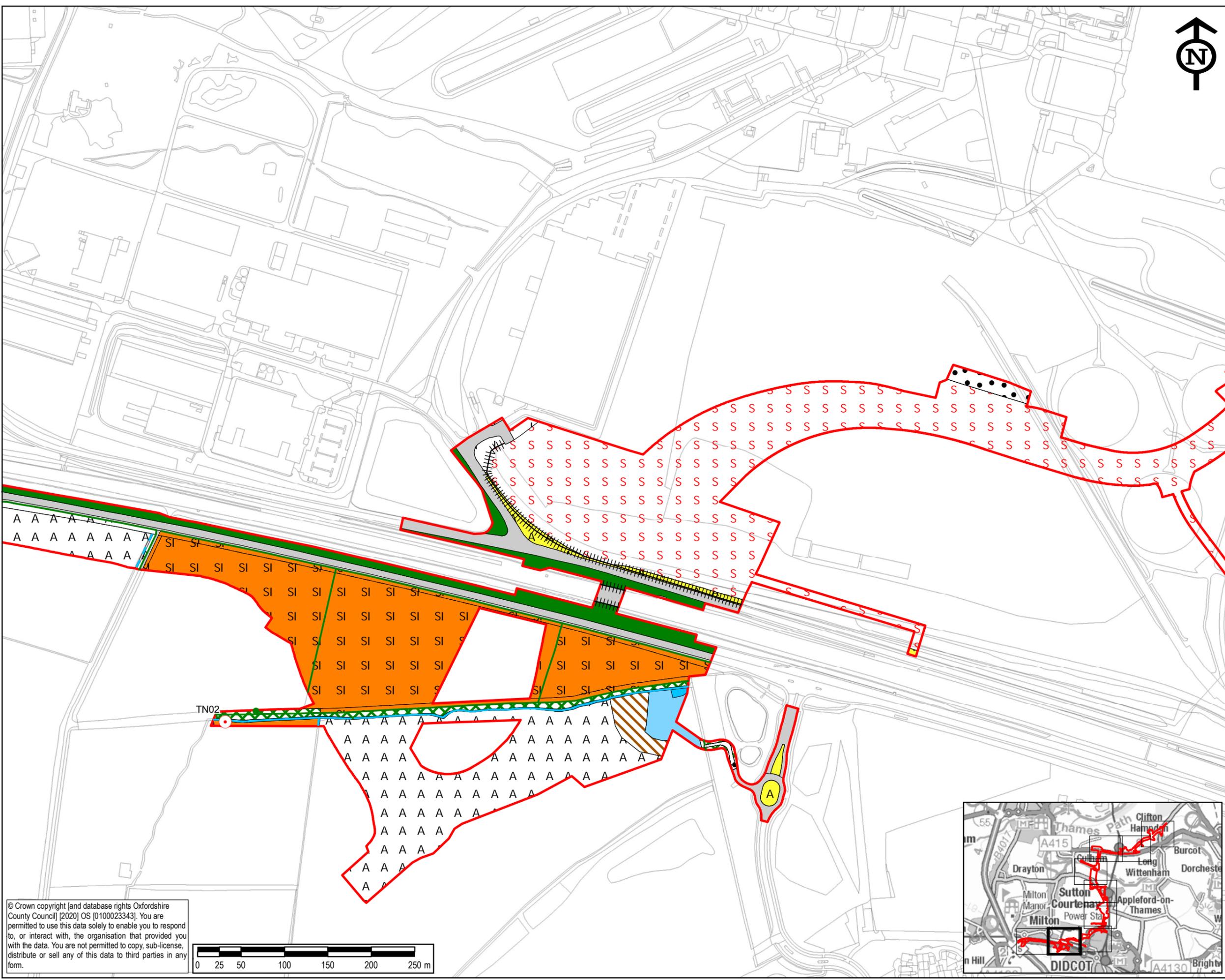
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Originator	Location	Role		



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**LEGEND**

- Indicative Red Line Boundary (Subject to Change)
- Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Coniferous Parkland/Scattered Trees
- Target Note
- Scrub - Scattered
- Running Water
- Intact Hedge - Species-Poor
- Defunct Hedge - Species-Poor
- Hedge With Trees - Native Species-Rich
- Hedge With Trees - Species-Poor
- Fence
- Dry Ditch
- Broadleaved Woodland - Semi-Natural
- Broadleaved Woodland - Plantation
- Mixed Woodland - Plantation
- Scrub - Dense/Continuous
- Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Neutral Grassland - Semi-Improved
- Improved Grassland
- Marsh/Marshy Grassland
- Poor Semi-Improved Grassland
- Other Tall Herb and Fern - Ruderal
- Swamp
- Standing Water
- Running Water
- Hardstanding
- Spoil
- Cultivated/Disturbed Land - Arable
- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
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Purpose of Issue  
**FOR INFORMATION**

Client  
**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

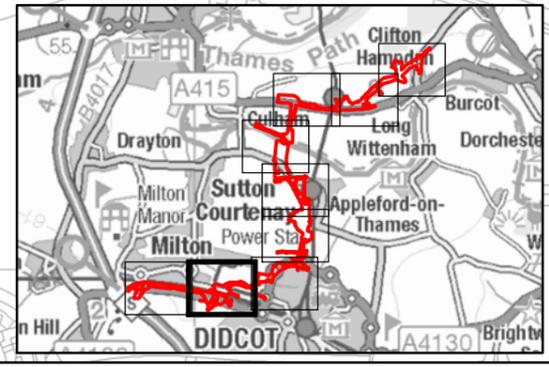
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**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 2 OF 9**

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				31/08/2021
Internal Project No.	Suitability			
60606782	S2			
Scale @ A3	Discipline			
1:4,000	Ecology			

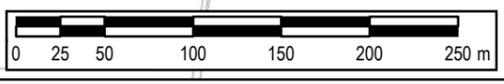
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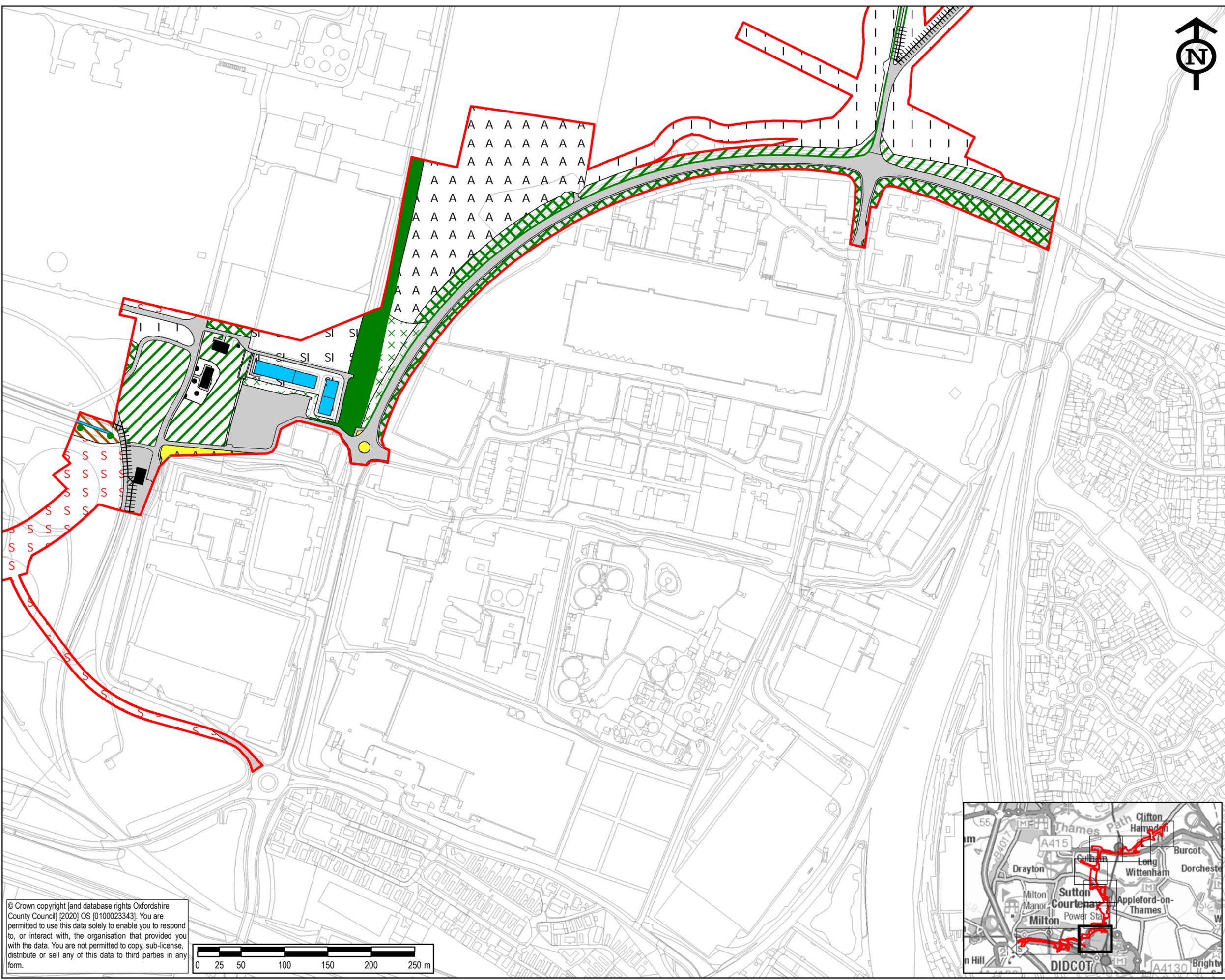
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GEN_PD-ACM-EBD-DGT_ZZ_ZZ-FG-EG-0039				P01
Originator	Location	Role		



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- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
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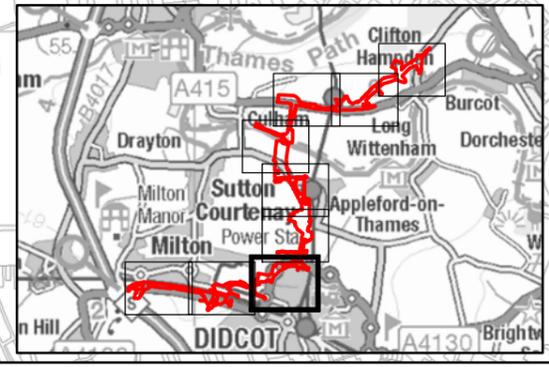
Purpose of Issue  
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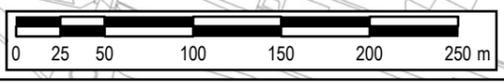
Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

Drawing Title  
**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 3 OF 9**

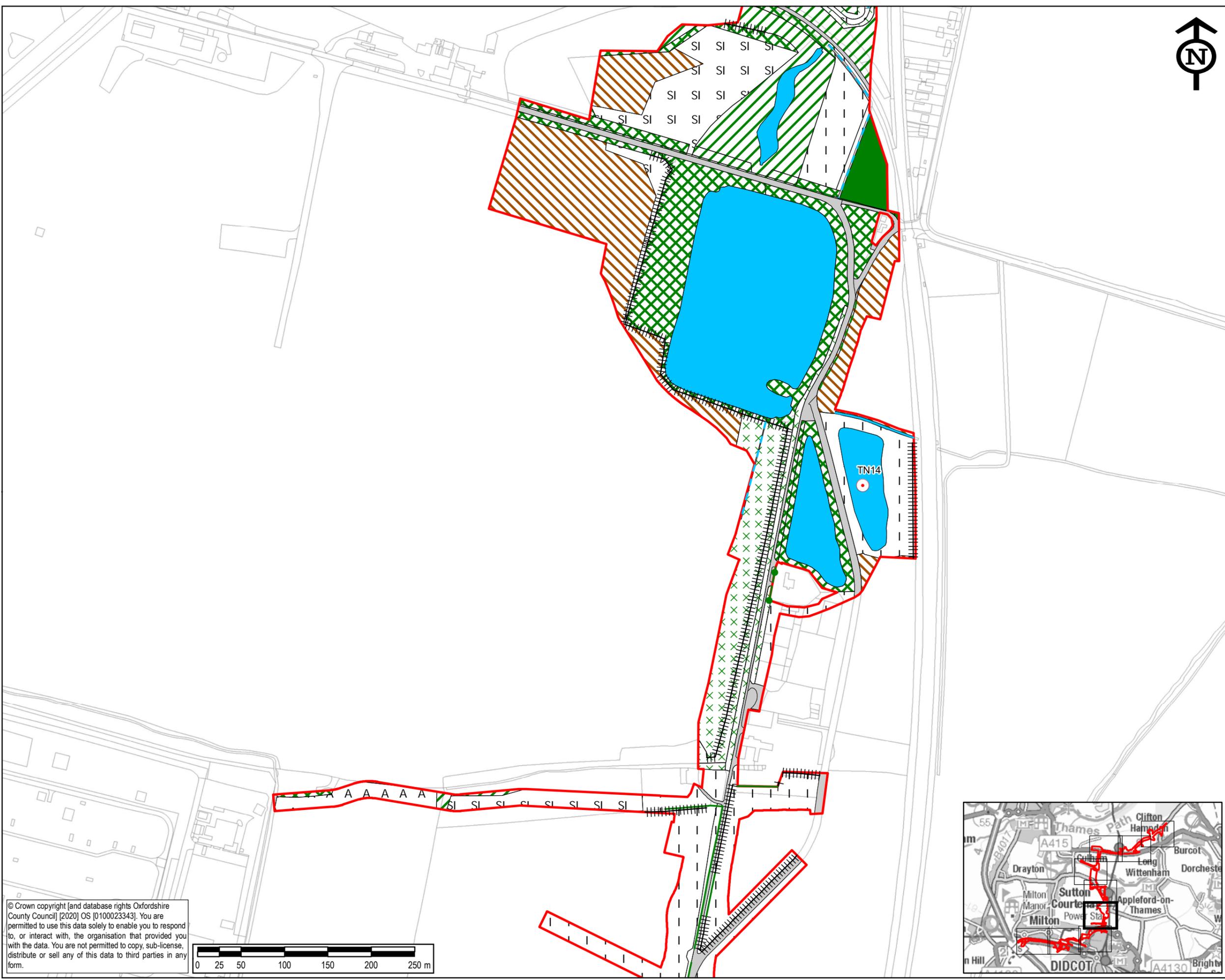
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Internal Project No. 60606782	Suitability S2			
Scale @ A3 1:4,000	Discipline Ecology			
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- H Hedge With Trees - Species-Poor
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- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
Check			

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Client  
 County Hall  
 New Road  
 Oxford  
 OX1 1ND

**OXFORDSHIRE  
 COUNTY COUNCIL**

Project Title

**DIDCOT GARDEN TOWN  
 HIF 1 SCHEME**

Drawing Title

**FIGURE 9.3  
 PHASE 1 HABITAT SURVEY  
 SHEET 4 OF 9**

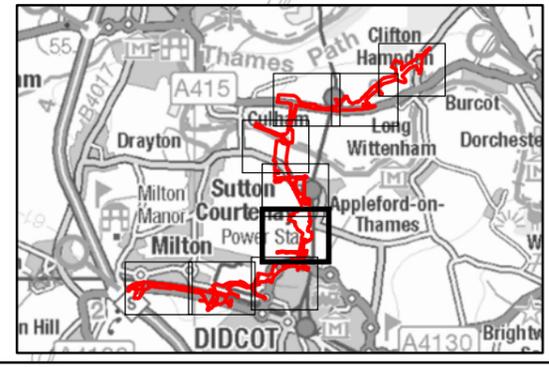
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Internal Project No. 60606782	Suitability S2		Discipline Ecology	
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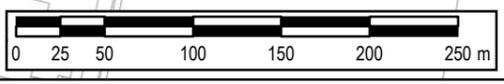
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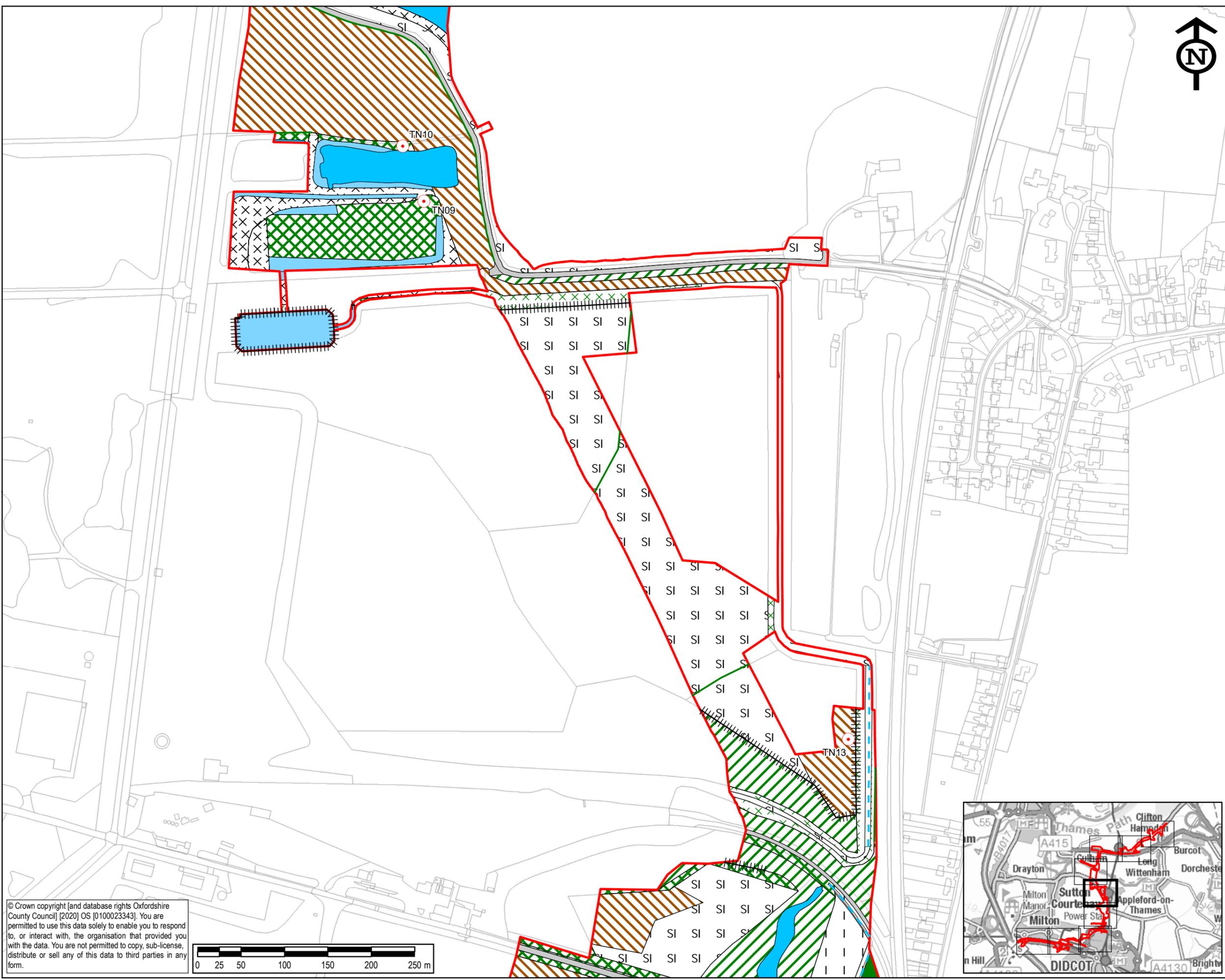
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**LEGEND**

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- Target Note
- Scrub - Scattered
- Running Water
- Intact Hedge - Species-Poor
- Defunct Hedge - Species-Poor
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- Scrub - Scattered
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- Running Water
- Hardstanding
- Spoil
- Cultivated/Disturbed Land - Arable
- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
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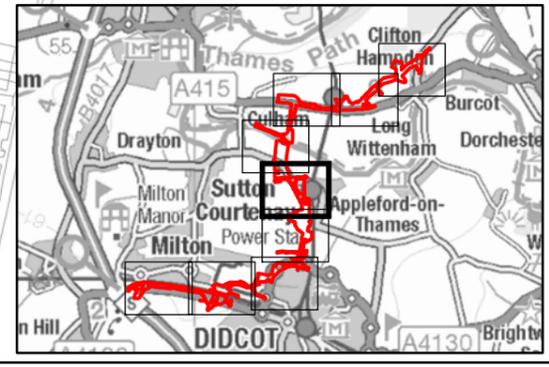
Purpose of Issue  
**FOR INFORMATION**

Client  
**OXFORDSHIRE COUNTY COUNCIL**

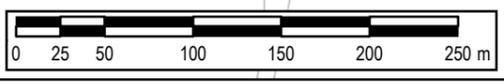
Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

Drawing Title  
**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 5 OF 9**

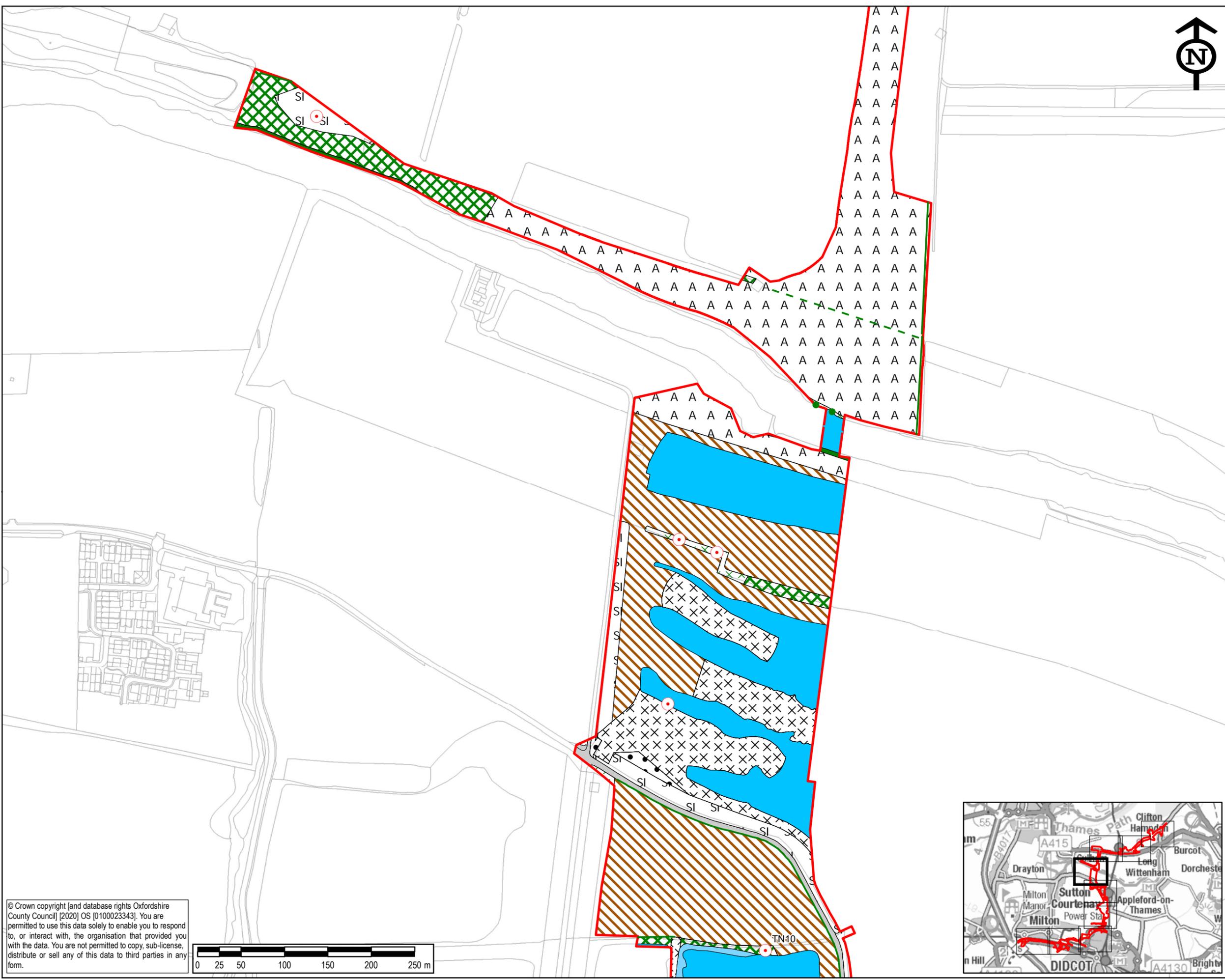
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Internal Project No. 60606782	Suitability S2			
Scale @ A3 1:4,000	Discipline Ecology			
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- X Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
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- Defunct Hedge - Species-Poor
- W Hedge With Trees - Native Species-Rich
- H Hedge With Trees - Species-Poor
- H Fence
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- Mixed Woodland - Plantation
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- Scrub - Scattered
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- Spoil
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- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
	Check		

Purpose of Issue  
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Client  
County Hall  
New Road  
Oxford  
OX1 1ND  
**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

Drawing Title  
**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 6 OF 9**

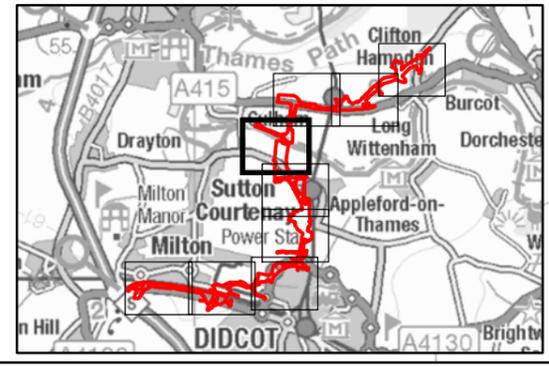
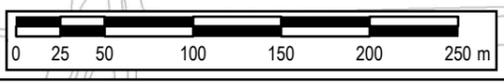
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Internal Project No. 60606782	Suitability S2			
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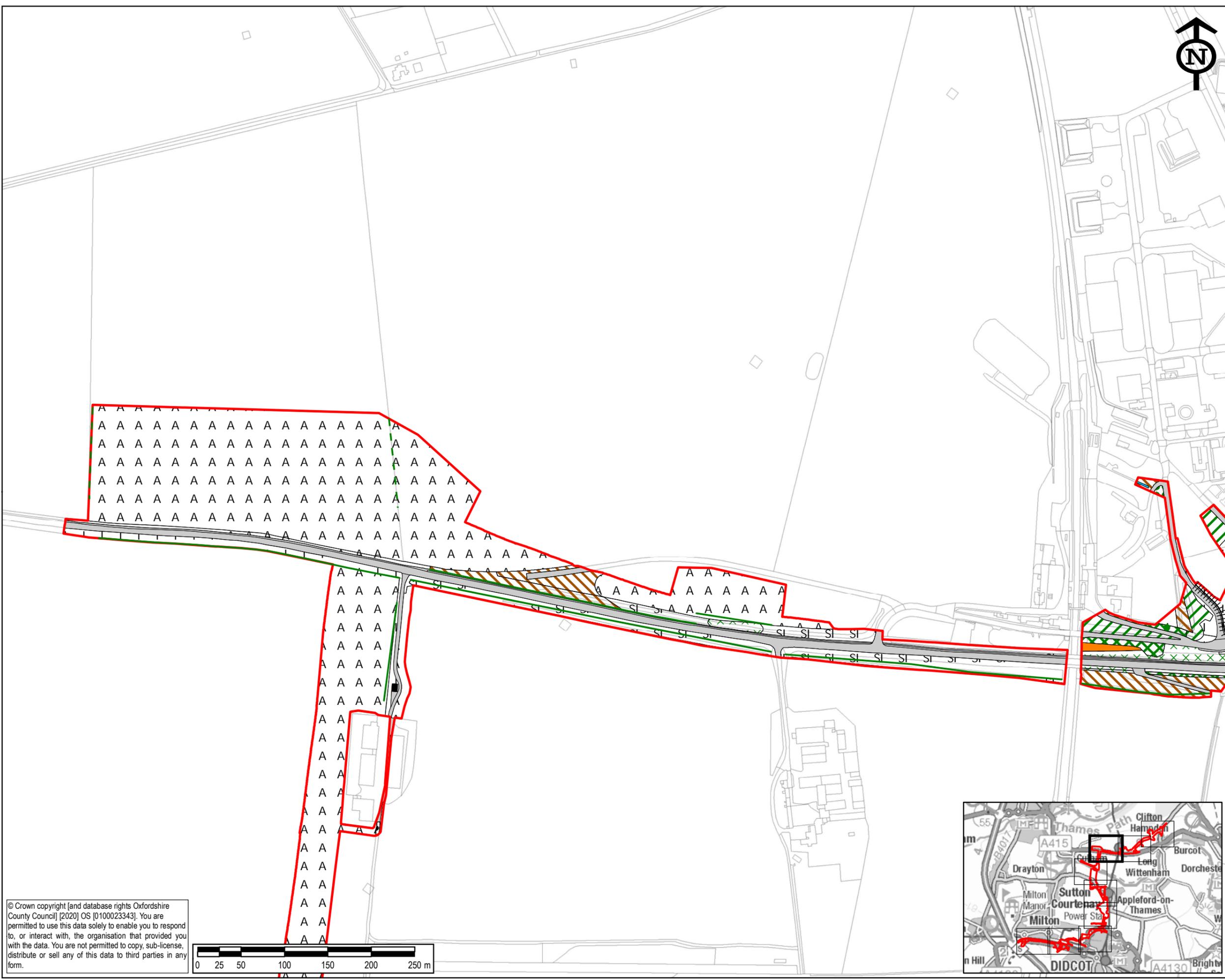
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- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
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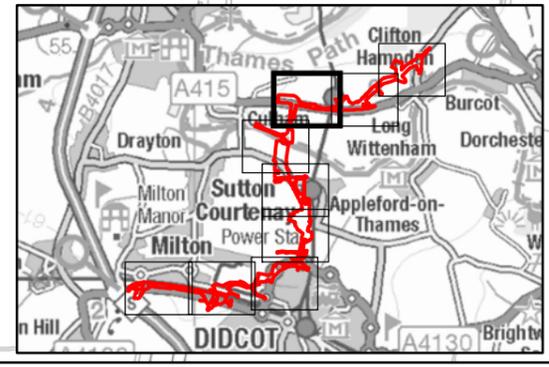
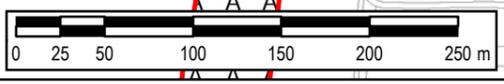
Client  
**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

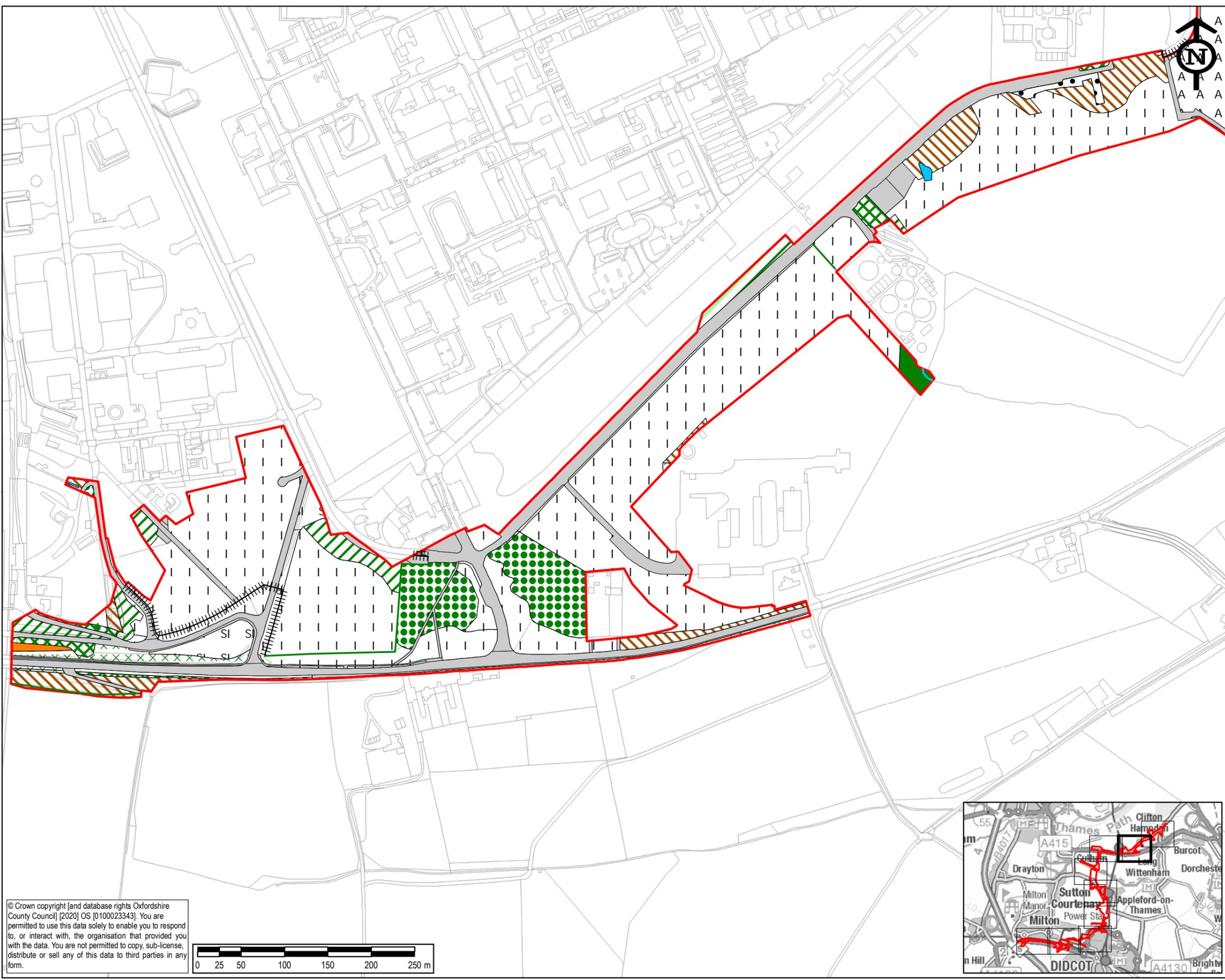
Drawing Title  
**FIGURE 9.3  
 PHASE 1 HABITAT SURVEY  
 SHEET 7 OF 9**

Designed SG	Drawn AG	Checked AB	Approved AB	Date
				31/08/2021
Internal Project No.	Suitability			
60606782	S2			
Scale @ A3	Discipline			
1:4,000	Ecology			
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**OXFORDSHIRE COUNTY COUNCIL**

Project Title  
**DIDCOT GARDEN TOWN HIF 1 SCHEME**

Drawing Title  
**FIGURE 9.3 PHASE 1 HABITAT SURVEY SHEET 8 OF 9**

Designed SG	Drawn AG	Checked AB	Approved AB	Date
				31/08/2021

Internal Project No.  
 60606782

Scale @ A3  
 1:4,000

Suitability  
 S2

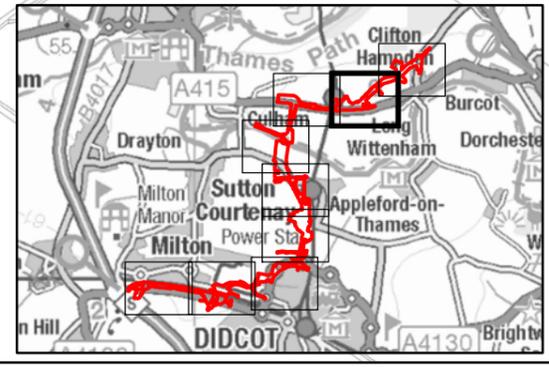
Discipline  
 Ecology

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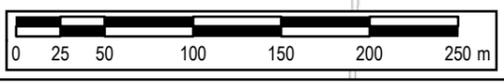
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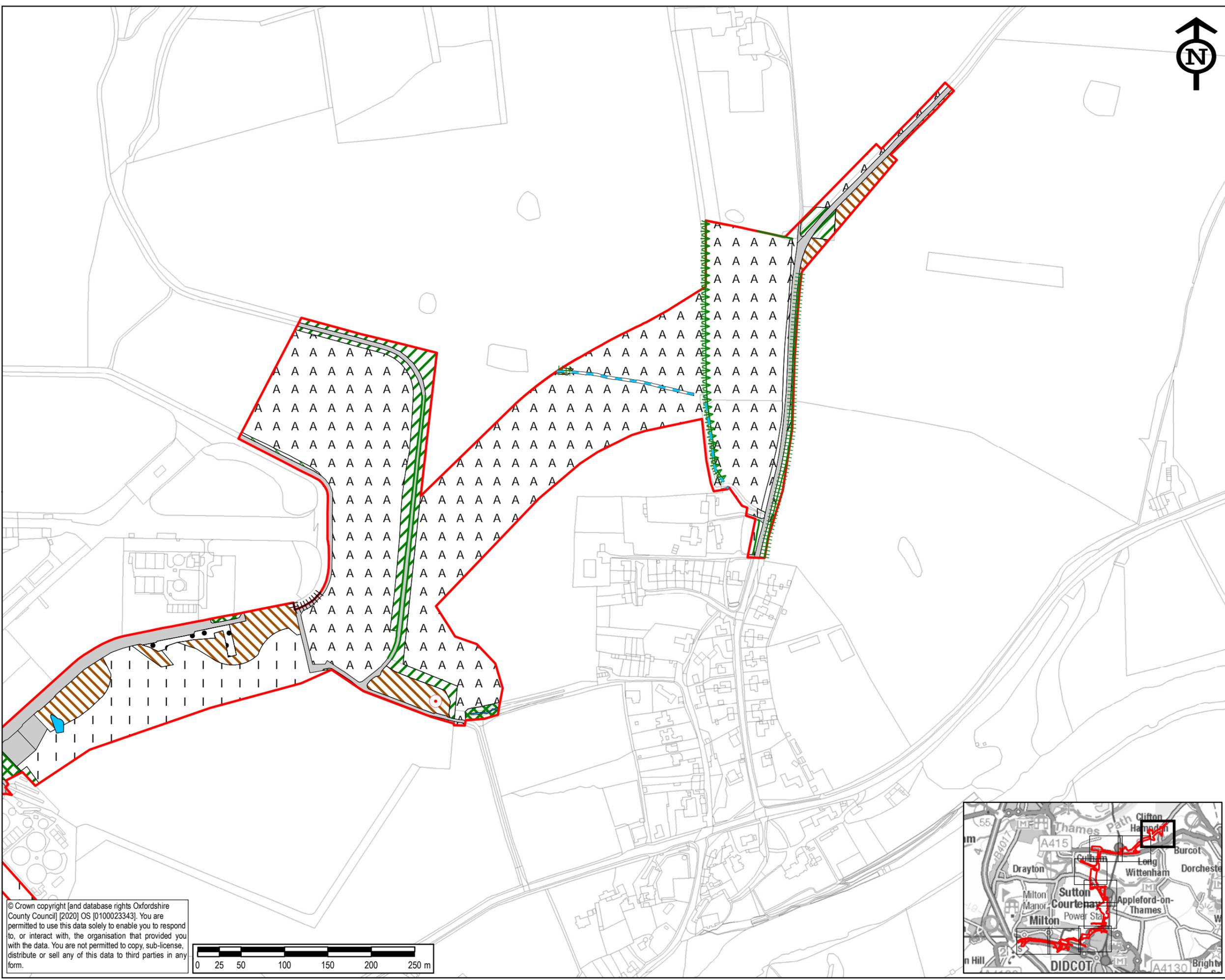
Drawing Number	Volume	Type	Number	Rev
GEN_PD-ACM-EBD-DGT_ZZ_ZZ-FG-EG-0039				P01
Originator	Location	Role		



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Plot Date: 31 August 2021 14:32:31  
 File Name: \\UKDSZ\FPS\W001 na.aecommet.com\LE\_PROJECT\GIS Management\60606782 - Didcot Garden Town Schemes\GIS\02\_Maps\Preliminary Drawings\DTG\_Prelim\_63\_Phase\_1\_2021\_20210223



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**LEGEND**

- Indicative Red Line Boundary (Subject to Change)
- X Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Coniferous Parkland/Scattered Trees
- Target Note
- X Scrub - Scattered
- Running Water
- Intact Hedge - Species-Poor
- Defunct Hedge - Species-Poor
- Hedge With Trees - Native Species-Rich
- Hedge With Trees - Species-Poor
- Fence
- Dry Ditch
- Broadleaved Woodland - Semi-Natural
- Broadleaved Woodland - Plantation
- Mixed Woodland - Plantation
- Scrub - Dense/Continuous
- Scrub - Scattered
- Broadleaved Parkland/Scattered Trees
- Neutral Grassland - Semi-Improved
- Improved Grassland
- Marsh/Marshy Grassland
- Poor Semi-Improved Grassland
- Other Tall Herb and Fern - Ruderal
- Swamp
- Standing Water
- Running Water
- Hardstanding
- Spoil
- Cultivated/Disturbed Land - Arable
- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/Short Perennial
- Building
- Bare Ground
- Private Garden - Not Surveyed

First Issue	AG	07/07/2021	P01
Revision Details	By	Date	Suffix
Purpose of Issue			
<b>FOR INFORMATION</b>			

Client  
 County Hall  
 New Road  
 Oxford  
 OX1 1ND

**OXFORDSHIRE  
 COUNTY COUNCIL**

Project Title

**DIDCOT GARDEN TOWN  
 HIF 1 SCHEME**

Drawing Title

**FIGURE 9.3  
 PHASE 1 HABITAT SURVEY  
 SHEET 9 OF 9**

Designed SG	Drawn AG	Checked AB	Approved AB	Date 31/08/2021
Internal Project No. 60606782	Suitability S2		Discipline Ecology	
Scale @ A3 1:4,000				

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