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# Bramford to Twinstead Reinforcement

Volume 8: Examination Submissions

Document 8.3.11: Ecological Survey of the Temporary Access Route  
off the A131

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# 1. Introduction

## 1.1 Overview

1.1.1 National Grid Electricity Transmission plc (here on referred to as ‘the Applicant’) has made an application for development consent to reinforce the transmission network between Bramford Substation in Suffolk, and Twinstead Tee in Essex. The Bramford to Twinstead Reinforcement (‘the project’) would be achieved by the construction and operation of a new 400 kilovolt (kV) electricity transmission line over a distance of approximately 29km (18 miles), the majority of which would follow the general alignment of the existing overhead line network.

## 1.2 Scope of the Surveys

1.2.1 This report presents the results of the ecological field surveys undertaken in relation to the temporary access route off the A131. The field surveys comprised a UK Habitats Classification (UKHab) and hedgerow survey and species surveys for invasive non-native species (INNS), badger (*Meles meles*) and a ground-based assessment of trees for roosting bat potential as indicated on Figure 1 (UK Habitat Classification Survey) and 2 (Species Survey) in Appendix A.

1.2.2 The surveys were undertaken between 7 and 9 August 2023 in dry, clear weather conditions. There were no limitations to the survey, other than where hedgerows ran alongside a road, and for surveyor safety reasons, only the field side of the hedgerow was surveyed. This is not considered to affect the results of the survey, as it was possible to see woody species and features (such as presence of a ditch) from the surveyed side.

1.2.3 No species-specific survey was undertaken for riparian mammals (water vole and otter) as the network of agricultural drainage ditches were of low suitability for these species.

1.2.4 No surveys were undertaken for dormouse (*Muscardinus avellanarius*), as the desk-based data indicates the likely presence of dormouse in hedgerows. This is in accordance with the methodology set out in Section 2.2 of Environmental Statement (ES) Appendix 7.8: Dormouse Survey Report, which states that it is assumed that dormouse is present in areas of suitable habitat identified through the UKHab survey. This was deemed sufficient for the purposes of the Environmental Impact Assessment in order to draw a conclusion on likely significant effects to this species.

## 2. Field Surveys

### 2.1 Habitat Surveys - UK Habitats Classification Survey

#### Methodology

- 2.1.1 A UKHab survey was undertaken in August 2023 in accordance with The UK Habitat Classification User Manual Version 1.1 (Butcher *et al.*, 2020). The survey covered the draft Order Limits of the temporary access route off the A131, as well as surveying the areas immediately adjacent. The presence and extent of any botanical INNS were also recorded where observed.
- 2.1.2 The principal aim of UKHab is to provide a system for recording and classifying habitats. Dominant and notable plant species were recorded, and plant abundance was categorised using the DAFOR scale; Dominant (D), Abundant (A), Frequent (F), Occasional (O) and Rare (R). Botanical taxonomic nomenclature follows that of the New Flora of the British Isles; Fourth Edition (Stace, 2019). Surveying was at the fine scale minimum mapping unit (MMU) i.e. 25m<sup>2</sup> polygons and linear features greater than 1m in width. Further details on the survey method can be found in ES Appendix 7.1: Habitats Baseline Report [APP-109]. The condition of the habitat was also assessed based on criteria set out in the Natural England Biodiversity Metric 4.0 Guidance (Defra, 2023).

#### Results

##### Habitats

- 2.1.3 The results of the UKHab Survey are shown in Figure 1 (Appendix A) with photographs of key habitat types and hedgerows present in Appendix B. The temporary access route off the A131 largely comprises large arable fields considered to be of negligible ecological value consistent with the following UKHab designations:
- c1 – arable and horticulture;
  - c1c7 – other cereal crops; and
  - c1d8 – other non-cereal crops.
- 2.1.4 Some fields were divided by arable field margins comprised of dominant false oat-grass and cock's-foot. A small area of assumed 'set-aside' was identified north of the Order Limits on the eastern boundary of the A131. Both of these are subcategories of the c1-arable and horticulture habitat (see Figure 1 in Appendix A).

##### Hedgerows and Lines of Trees

- 2.1.5 A well-established hedgerow network was present, largely comprised of hedgerows made up of the UKHab designation h2a (priority habitat) (see Figure 1 in Appendix A). These hedgerows and lines of trees are described from east to west:
- H-G-66 was a tall and outgrown hedgerow with trees becoming particularly leggy at the base. Several mature oak trees were present along its length as well as a dry ditch associated on its northern aspect. Species present included oak sp. (A), willow sp. (O), dog-rose (R), blackthorn (O), field maple (O), holly (R), hawthorn (F), elder (R) and hazel (R).

- H-H-31 was a roadside hedge with a dry ditch presence along its northern aspect. The woody component of the hedgerow was relatively species-rich comprising field maple (O), elm (R), elder (R), dog-rose (R), hazel (O) and holly (R). However, a tussocky ground flora was present indicative of nutrient enrichment with abundant false oat-grass, bramble and nettle.
- H-H-30 and H-G-67 were low and narrow roadside hedgerows with a dry ditch present along both sides. The woody component of both hedges is fairly diverse with the following species recorded along their length: dog-rose (O), oak sp. (R), dogwood (O), willow sp. (R), hazel (O) and field maple (O). A comparatively species-rich ground flora was also present for both hedgerows comprising herbs such as hedgerow cranesbill (R), hedge bedstraw (R), knapweed (O), yarrow (O) and meadow vetchling (R).
- H-H-32 and H-H-33 are adjacent roadside hedgerows separated by an existing gap. H-H-32 partly delineated a residential property and was well-managed hedgerow with outgrowth regularly trimmed and dimensions of approximately 4m tall and 2m wide. The ground flora could not be assessed in detail due to the presence of a busy road but several discernible species made up the woody component: field maple (O), elm (R), elder (R), hawthorn (F) and oak sp (O). H-H-33 was a less intensively managed hedgerow with tree species field maple (R), blackthorn (F), oak sp. (O), hazel (R), dog-rose (R), ash (O) and willow sp (R).
- LOT-H-11 was a line of trees adjacent to the northern edge of a single lane road. A dry ditch delineated the northern boundary of the tree line. Tree species recorded included oak sp. (D), field maple (O), elm sp. (R) and willow sp (R). Blackthorn and bramble were also recorded locally frequent in the shrub layer.
- H-H-34 was a field hedgerow situated on the border between two arable fields with an existing gap present where the proposed access route intersects. A partially wet ditch was also present along its entire south-eastern aspect (identified as W-H-20 in the otter and water vole survey in ES Appendix 7.2: Species Baseline Report [APP-112], and confirmed on site as having a low suitability for otter and water vole). The vegetation present within the gap comprised bramble scrub, false oat-grass (A), willowherb sp. (F), nettle (A) and common reed (R) where it was associated with the partially wet ditch. The woody component of H-H-34 was relatively species-rich comprising hazel (O), field maple (F), ash (O), blackthorn (F), elm sp. (R), and hawthorn (A).
- H-H-35 was a roadside hedgerow. The woody component of the hedgerow comprised field maple (O), elm sp. (R), hawthorn (A), rosa sp. (R), oak (O), ash (R) and blackthorn (O). A relatively herb-rich ground flora was also present comprising knapweed (F), ragwort (R), field scabious (O), yarrow (O) and meadow vetchling (R). A dry ditch was also present along the eastern aspect of the hedgerow measuring approximately 0.8m x 0.5m.
- LOT-H-12 was a line of six mature oak trees. Evidence indicative of breeding birds was also recorded associated with the line of trees with eggshells recorded at their base. A dry ditch ran along the south-western aspect of the tree line.
- H-H-36 was situated between an arable field and the A131 road. The woody component of the hedgerow comprised several immature and semi-mature trees with woody species recorded including blackthorn (F), oak sp.(F), gorse (LO), hawthorn

(A), field maple (O), elm sp. (R), dog-rose (R) and hazel (R). A partially wet ditch was present along its south-eastern aspect.

- 2.1.6 Hedgerow condition along the route of the temporary access route off the A131 ranged from moderate to good condition. In addition, analysis of field data identified Important hedgerows, in accordance with the Hedgerows Regulations 1997. A summary is provided in Table 2.1 below with the analysis regarding wildlife and landscape criteria in Appendix C.

**Table 2.1 – Hedgerow Survey Summary**

<b>Hedgerow ID</b>	<b>Field survey 2023 - UKHab Code</b>	<b>Biodiversity Metric 4.0 Condition Assessment</b>	<b>Field Survey 2023 - Important (Hedgerow Regulations 1997)</b>
H-H-30	h2a – Native hedgerow	Moderate	Yes
H-H-31	h2a – Native hedgerow	Good	No
H-H-32	h2a – Native hedgerow	Good	No
H-H-33	h211 – Hedgerow with trees	Good	Yes
H-H-34	h2a – Native hedgerow	Good	No
H-H-35	h2a – Native hedgerow	Good	Yes
H-H-36	h2 11 – Hedgerow with trees	Good	Yes
H-G-66	h2 11 – Hedgerow with trees	Good	Yes
H-G-67	h2a – Native hedgerow	Moderate	Yes
LOT-H-11	w1g6 – Line of trees	Poor	N/A
LOT-H-12	w1g6 – Line of trees	Moderate	N/A

### **Invasive non-native species**

- 2.1.7 No botanical INNS were identified during the survey.

## **2.2 Badger Survey**

### **Methodology**

- 2.2.1 A badger survey was undertaken of the temporary access route off the A131, plus a 30m wide area either side (where accessible) to record evidence of badger presence (as per Natural England and Defra, 2015) including badger setts, hairs, paths/runs, foraging signs, dung pit or latrine, footprints, scratching, bedding material and evidence of rabbit or fox.
- 2.2.2 Further details on the methodology are set out in ES Appendix 7.9: Badger Survey Report [APP-121/122].

## Results

- 2.2.3 Evidence of badger presence was found in the survey area, as illustrated on Figure 2 (Appendix A). Evidence recorded comprised a mammal pathway and badger latrines. A disused two-hole outlier sett was located at OS Grid Reference TL 8386 3482, immediately adjacent to the Order Limits.

## 2.3 Bat Surveys

### Methodology

- 2.3.1 A ground assessment of trees within and up to 50m from the Order Limits was undertaken to assess their potential to support roosting bats. This involved identifying features that roosting bats may favour (e.g. holes, cracks and cavities that might be used as bat access-points or roost sites). Each tree was also given a category during the assessment based on its potential to support roosting bats as set out in Collins, 2016. Trees with negligible potential to support roosting bats were not recorded. Further details on the survey methodology can be found in ES Appendix 7.7: Bat Survey Report [APP-117].

### Results

- 2.3.2 The ground assessment of trees for roosting bats identified eight trees of low potential and two trees of moderate potential to support roosting bats within the survey area, as illustrated within Figure 2 (Appendix A) and summarised below in Table 2.2. Two veteran trees identified by arboricultural specialists did not support features suitable for roosting bats but have intrinsic biodiversity value.

Table 2.2 – Ground Assessment of Trees for Bat Roosting Potential

Tree ID (Figure 2 Appendix A)	Features	Bat Roost Potential Category
T1	Large mature oak with several broken branches in canopy. Knot hole present on northern aspect approximately 3m high.	Low
T2	Large mature oak with several broken branches in canopy. Two knot holes are present on northern aspect approximately 2.5m high.	Moderate
T3	Large mature oak with several, relatively shallow, knot holes on northern aspect that could potentially offer roosting potential to individual bats.	Low
T4	Large mature oak with several knot holes and broken branches present on northern aspect offering roosting potential for individual bats. A hazard beam is also present approximately 3m high on a branch located on the southern aspect of the tree.	Moderate
T5/T6/T7/ T8/T9 and T10	A line of large mature oak trees of similar age. All trees have several knot holes and broken branches in the canopy that could potentially offer roosting potential to individual bats.	Low



# 3. Conclusions

## 3.1 Summary Of Survey Results

- 3.1.1 The survey data collected in August 2023 and set out within this report is considered sufficiently robust and detailed to verify the existing baseline set out within the Environmental Statement (see Section 3.2 below).
- 3.1.2 The surveys confirm that the temporary access route off the A131 passes through arable fields, which are low ecological value habitats. This confirms the assumptions made in the ES at Appendix 7.1: Habitats Baseline Report [APP-109]. Therefore, no changes are required to the ES baseline, figures or assessment in relation to habitats.
- 3.1.3 No botanical INNS were identified. No active badger setts were identified although badger activity and a disused sett was recorded. Trees with bat roosting potential have been identified.

## 3.2 Verification of Conclusions in the ES

- 3.2.1 ES Appendix 7.1 Habitats Baseline Report [APP-109] and the subsequent assessment in ES: Chapter 7: Biodiversity [APP-075] assumed the habitats present along the temporary access route off the A131 were UKHab category c1 – arable and horticulture. This is a level 2 UKHab category. The field survey confirmed the assumed level 2 habitat identification and with the data collected in the field it was possible to attribute level 3 categories of the same habitat type. As such, the assumed habitats assessed in ES Chapter 7: Biodiversity [APP-075] have been confirmed.
- 3.2.2 ES Appendix 7.5: Important Hedgerow Assessment [APP-115] and the subsequent assessment in ES: Chapter 7: Biodiversity [APP-075] assumed that all hedgerows along the temporary access route were important. Hedgerow survey in August 2023 confirmed that of the eleven boundary features, nine were hedgerows and two were lines of trees (see Table 2.1). Of the nine hedgerows with assumed Important hedgerow status in the assessment, six were confirmed to be important and three hedgerows did not meet the criteria to be considered important. The precautionary approach taken in ES Chapter 7: Biodiversity [APP-075] for important hedgerows took the worst case scenario and proved to over-estimate the number of important hedgerows actually present.
- 3.2.3 As no active badger setts were recorded, no changes to ES Appendix 7.9 Annex A: Badger Draft Licence and Letter of No Impediment (LONI) [APP-124] made at the submission of the application for development consent are required. As no trees with bat roost potential are likely to be lost, there would be no change to ES Appendix 7.7 Annex A: Bat Draft Licence and LONI [APP-118] submitted as part of the application for development consent.
- 3.2.4 As stated in Section 2.5 of the Landscape and Ecological Management Plan (LEMP) [APP-182], further verification surveys will be carried out pre-construction to supplement the baseline information currently collected for the final European Protected Species licences and to inform the construction methodology produced for the project. The draft licences submitted with the application for development consent set the framework for mitigation, should species be found in new locations at that time. The LEMP is secured through Requirement 4 of the draft Development Consent Order [APP-034].

# References

Butcher, B., Carey, P. Edmonds, B. Norton, L. and Treweek, J. (2020) The UK Habitat Classification User Manual Version 1.1.

Collins, J. (Eds.) (2016) Bat Surveys for Professional Ecologists – Good Practice Guidelines. Third Edition.

Defra (2023) The Biodiversity Metric 4.0 – User Guide.

Harris, S., Cresswell, P & Jefferies, D. (1989) Surveying badgers. An Occasional Publication of the mammal Society – No. 9. Mammal Society, London.

Natural England and Defra (2015). Badgers: surveys and mitigation for development projects.

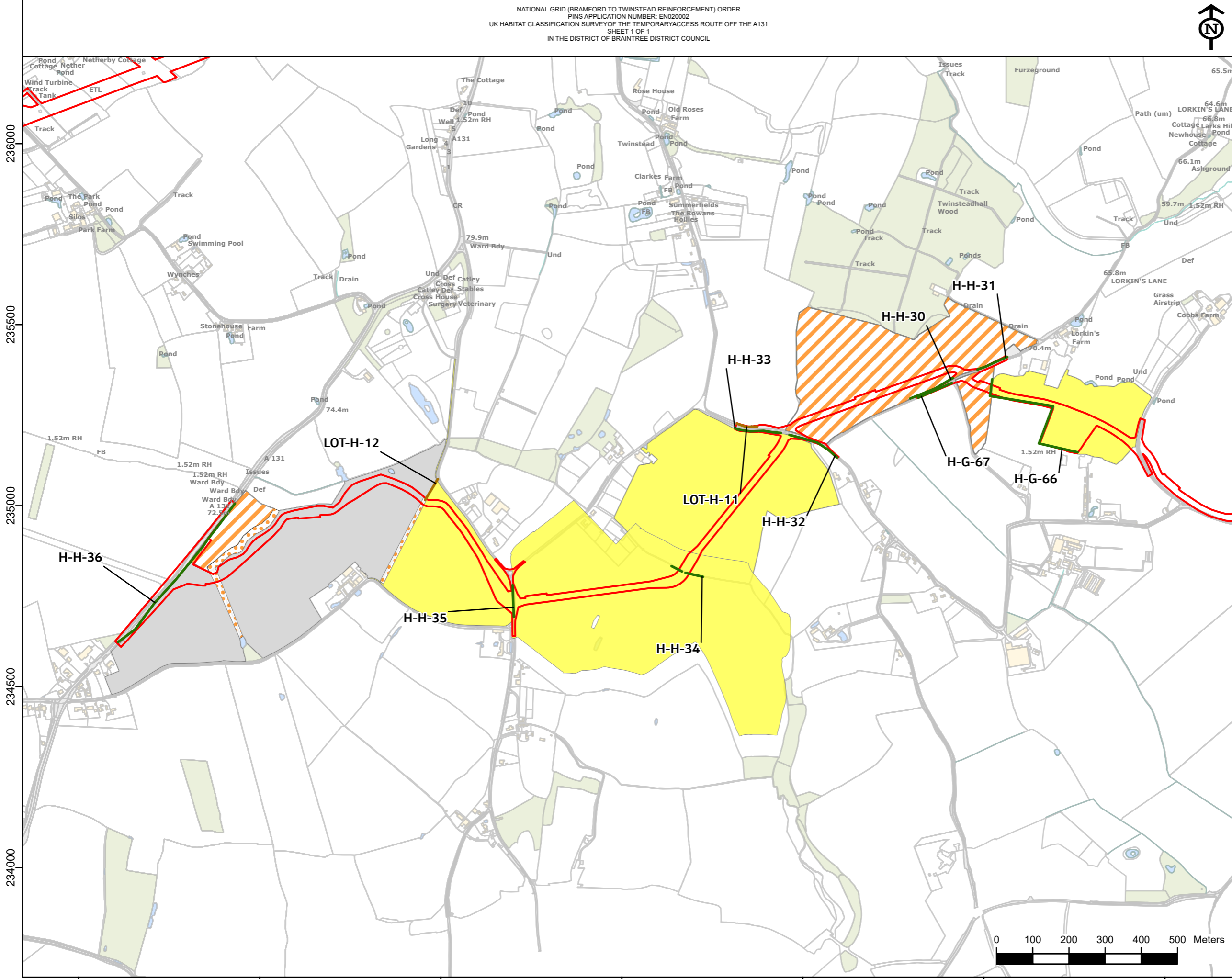
Stace, C. (2019). New Flora of the British Isles (4th Ed), Cambridge University Press. London, UK.

# Appendix A. Figures



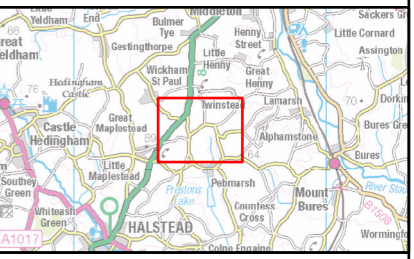


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**Legend**

- Order Limits
- UKHab Hedgerow Category**
- h2a - hedgerow (priority habitat)
- w1g6 - line of trees
- UK Habitats Classification Survey**
- c1 - arable and horticulture
- c1a - arable field margins
- c1c7 - Other cereal crops
- c1d8 - Other non-cereal crops



NG Investment No. ETX/01142

A	09/2023	Rev A for Deadline 1	PM	LG	CW				
ISSUE	DATE	REMARKS	DRWN	CHKD	APPD				

PROJECT: **Bramford to Twinstead Reinforcement**



TITLE: **Figure 1 UK Habitat Classification Survey of the Temporary Access Route Off the A131**

CIRCUIT / SITE: **Bramford – Pelham & Bramford – Braintree – Bulls Lodge** **GIS**

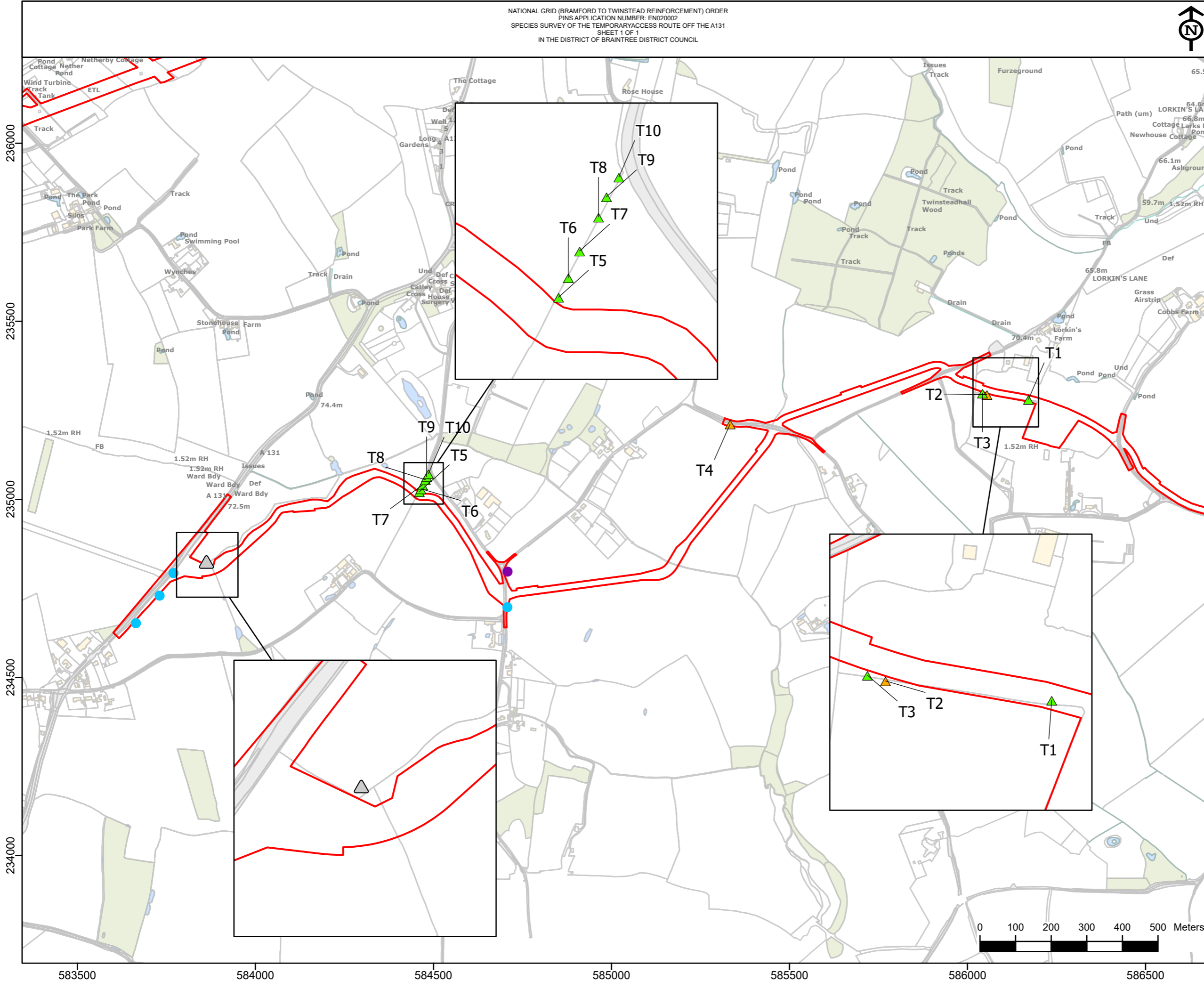
ORIGINATOR DRAWING NO. **AAA\_BTT\_HaulRoute\_Survey\_Fig01\_Rev0** **A3**

NG DRAWING No.	SHEET NO.	NO. OF SHEETS	ISSUE:
	<b>1</b>	<b>1</b>	<b>A</b>

SCALE: 1:10000

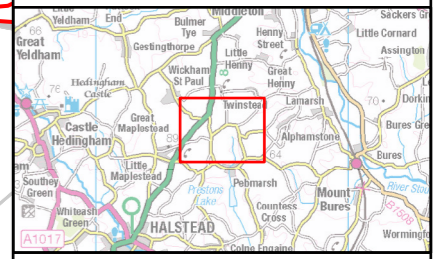


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- Legend**
- Order Limits
  - Bat roost potential - trees**
    - ▲ Low roost potential
    - ▲ Moderate roost potential
  - Badger sign**
    - Latrine
    - Pathway
    - Disused sett

No Invasive or Non Native Species were noted during the survey



NG Investment No. ETX/01142

A	09/2023	Rev A for Deadline 1	PM LG CW
ISSUE	DATE	REMARKS	DRWN CHKD APPD

PROJECT: **Bramford to Twinstead Reinforcement**



TITLE: **Figure 2  
Species Survey of the Temporary  
Access Route Off the A131**

CIRCUIT / SITE: Bramford – Pelham & Bramford – Braintree – Bulls Lodge	GIS
ORIGINATOR DRAWING NO. AAA_BTT_HaulRoute_Survey_Fig02_Rev0	A3
NG DRAWING No.	SHEET NO. 1
SCALE: 1:10000	NO. OF SHEETS 1
	ISSUE: A





# Appendix B. Photographs

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## Habitats

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c1 – Arable and horticulture



C1a – Arable field margins



c1c7 – Other cereal crops



c1d8 – Other non-cereal crops





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Assumed set-aside parcel – east of A131



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### Hedgerows / Lines of Trees

H-H-30



H-H-31



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H-H-32



H-H-33



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H-H-34



H-H-35





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H-H-36



H-G-66



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H-G-67



LOT-H-12





# Appendix C. Hedgerow Assessment (Hedgerow Regulations 1997) – Wildlife and Landscape Criteria

Hedgerow ID	Number of Woody Species (Criteria 7)	Number of Features (Criteria 7) <sup>1</sup>	Hedgerow Adjacent to a Public Right of Way (Criteria 8)	Important
H-H-30	6	B, G, I (3)	No	Yes
H-H-31	6	B, I (2)	No	No
H-H-32	5	B, G (2)	No	No
H-H-33	7	B, D, G (3)	No	Yes
H-H-34	6	B, G (2)	No	No
H-H-35	7	B, G (2)	No	Yes
H-H-36	7	B, F, G, I (4)	No	Yes
H-G-66	7	B, E, G (3)	Yes	Yes
H-G-67	6	B, G, I (3)	No	Yes

<sup>1</sup> (a) A bank or wall which supports the hedgerow along at least half of its length; (b) Gaps which aggregate do not exceed 10% of length of hedgerow; (c) Where the length of the hedgerow does not exceed 50m, at least one standard tree; (standard tree >20cm DBH (or 63cm circ) and multi-stemmed is >15cm DBH (or 47cm circ). (d) Where the length of the hedgerow exceeds 50m but does not exceed 100m, at least two standard trees; (e) Where the length of the hedgerow exceeds 100m, such number of standard trees (within any part of its length) as would when averaged over its total length amount at least one for each 50m; (f) At least three woodland species (Schedule 2) within 1m, in any direction, of the outermost edges of the hedgerow; (g) A ditch along at least one half of the length of the hedgerow; (h) Connections scoring four points or more in accordance with sub-paragraph (5); (i) A parallel hedge within 15m of the hedgerow.

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