

Contents

1.	Introduction	1
1.1	Background	1
1.2	Brief and Objectives	3
1.3	Study Area and Survey Area	3
2.	Relevant Legislation and Policy	4
2.1	Legal Compliance	4
2.2	Planning Policy	5
3.	Methodology	6
3.1	Desk Study	6
3.2	Survey Methodology	6
3.3	Dates of Survey and Personnel	6
3.4	Notes and Limitations	7
4.	Results	8
4.1	Overview	8
4.2	Desk Study Results	8
4.3	Field Survey Results	11
4.4	Conclusion	11
	Table A8.14.1 SPI not considered further in this report Table A8.14.2 Legal compliance	1 4
	Table A8.14.3 SPI species unlikely to be affected by the Project	8
	Table A8.14.4 Desk study results Table A8.14.5 Brown Hare sightings	9 11
	Figure A8.14.1 SPI Desk Study and Incidental Records	
	Annex A: Figures	

1. Introduction

1.1 Background

- 1.1.1 This report has been produced as an appendix to Chapter 8: Ecology and Biodiversity (document reference 6.8) of the Environment Statement (ES) (Volume 6 of the Development Consent Order (DCO) application) for Norwich to Tilbury (the 'Project').
- 1.1.2 The ecological background and the scope for this report is set out in the Environmental Impact Assessment (EIA) Scoping Report (document reference 6.19) and agreed within the EIA Scoping Opinion received from the Planning Inspectorate in December 2022 (document reference 6.20).
- 1.1.3 Almost 1,000 species are listed under Section 41 (s41) of the Natural Environment and Rural Communities (NERC) Act 2006 as Species of Principal Importance in England (hereafter referred to as SPI) that are of nature conservation concern. The majority of SPIs, that have the potential to be impacted by the Project, have their own separate appendices which identify the targeted surveys undertaken to inform the ES (Volume 6 of the DCO application). Appendices 8.1 to 8.16 (document references 6.8.A1 6.8.A16) identify the survey methodologies for species and species groups that include SPI.
- 1.1.4 This appendix presents the baseline information on SPI species not included within their own technical appendix, that have the potential to be impacted by the Project.
- 1.1.5 Table A8.14.1 below, identifies the SPI that are considered in their own appendix and so not considered in this report.

Table A8.14.1 SPI not considered further in this report

Taxon Group	Species	Reason
Plants	Terrestrial species	Terrestrial plant species listed under the NERC Act 2006 are considered in Appendix 8.1: Habitat Report (document reference 6.8.A1)
Plants	Aquatic species	Aquatic plant species listed under the NERC Act 2006 are considered in Appendix 8.4: Aquatic Report (document reference 6.8.A4)
Fungi	All species	Fungi are considered within Appendix 8.1: Habitat Report (document reference 6.8.A1)
Terrestrial Invertebrates	All species	Terrestrial Invertebrates are considered within Appendix 8.5: Terrestrial Invertebrate Report (document reference 6.8.A5)
Fish	All species	Fish are considered within Appendix 8.4: Aquatics Report (document reference 6.8.A4)

Taxon Group	Species	Reason
Amphibians	Great crested newt	Great crested newt <i>Triturus cristatus</i> is to be covered by District Level Licensing (DLL) and assessed by Natural England as detailed in Chapter 8: Ecology and Biodiversity (document reference 6.8)
Reptiles	All species	Reptile species listed under the NERC Act 2006 are considered in Appendix 8.6: Reptile Report (document reference 6.8.A6)
Birds	All species	Bird species listed under the NERC Act 2006 are considered within Appendix 8.7: Breeding Bird Report (document reference: 6.8.A7) and Appendix 8.8: Wintering and Passage Birds Report (document reference 6.8.A8)
Mammals	Bats	Bats are considered within Appendix 8.9: Bat Roosting Report (document reference: 6.8.A9), Appendix 8.10: Bat Activity Report (document reference: 6.8.A10), and Appendix 8.11: Bat Radiotracking Report (document reference 6.8.A10)
	Hazel Dormouse	Hazel dormouse <i>Muscardinus avellanarius</i> is considered in Appendix 8.12: Hazel Dormouse Report (document reference 6.8.A12)
	Otter	Otter <i>Lutra lutra</i> is considered in Appendix 8.13: Otter and Water Vole Report (document reference 6.8.A13)
	Water Vole	Water vole <i>Arvicola amphibius</i> is considered in Appendix 8.13: Otter and Water Vole Report (document reference 6.8.A13)

- The Project has also been sub-divided into eight geographical sections for reader accessibility, based largely on Local Planning Authority boundaries.
 These are shown on Figure A8.14.1: SPI desk study and incidental records in Annex A, and comprise:
- Section A South Norfolk Council
- Section B Mid-Suffolk District Council
- Section C Babergh District Council, Colchester City Council and Tendring District Council
- Section D Colchester City Council
- Section E Braintree District Council
- Section F Chelmsford City Council and Brentwood District Council
- Section G Basildon Borough Council and Brentwood Borough Council (and part of Chelmsford City Council)
- Section H Thurrock Council.

1.1.6 Results reported in this document reference the Project Section that the record is located within.

1.2 Brief and Objectives

- 1.2.1 The purpose of this report is to identify the presence and distribution of SPI across the Project, that do not require specific targeted surveys, that nevertheless would require consideration as potential biodiversity receptors within Chapter 8: Ecology and Biodiversity (document reference 6.8).
- 1.2.2 The aims and objectives of the report are to provide baseline data on SPI for the Project, by undertaking the following:
 - A detailed desk study
 - Undertaking a review of incidental records obtained whilst undertaking ecological surveys for the Project.

1.3 Study Area and Survey Area

- 1.3.1 The Study Area is defined as the land within the Order Limits plus a 2 km buffer.
- 1.3.2 No targeted surveys for the species covered by this report have been undertaken, as agreed within the EIA Scoping Report (document reference 6.19) and subsequent EIA Scoping Opinion (document reference 6.20). However their presence has been noted when identified during other ecological surveys conducted by the Project within the Study Area.

2. Relevant Legislation and Policy

2.1 Legal Compliance

2.1.1 Table A8.14.2 outlines the legislation that has been considered with regard to this report.

Table A8.14.2 Legal compliance

Legislation	Details
Conservation of Habitats and Species Regulations 2017, as amended in 2019 ('Habitats Regulations')	The Regulations require authorities on behalf of the Secretary of State to maintain a list of sites which are important for either habitats or species Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) and to provide protection for these sites through designation, planning, and other controls. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities (Natural England for this Project). Licenses may be granted for several purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the favourable conservation status of the species concerned.
The Wildlife and Countryside Act 1981, as amended (WCA)	The Act is the main mechanism for legislative protection of wildlife in England. It gives protection to native species (particularly threatened species), their resting places and places of shelter by making it an offence to kill, injure, take, damage, destroy, sell, or possess them (with exceptions). Under the Act, brown hare <i>Lepus europaeus</i> is protected from killing during the close season from 1 February to 30 September. Hedgehog <i>Erinaceus europaeus</i> , polecat <i>Mustela putorius</i> and shrews (of any species) may not be taken or killed by certain methods. Stoat <i>Mustela erminea</i> may not be taken or killed by trapping or snaring.
The Natural Environment and Rural Communities (NERC) Act 2006	The NERC Act 2006 places a duty upon public bodies in England to maintain Section 41 (s41) lists of flora, fauna, and habitats and to consider these ecological features as a material consideration in planning. It also requires decision-

Legislation	Details
	makers to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

2.2 Planning Policy

2.2.1 Chapter 8: Ecology and Biodiversity (document reference 6.8) provides further details of relevant planning policy.

3. Methodology

3.1 Desk Study

- 3.1.1 A desk study was completed in September 2023 and updated in April 2025. The desk study assessed habitat suitability within the Order Limits and identified records of SPI within the Study Area.
- 3.1.2 The desk study used records for species recorded in the past 10 years, obtained from the following local environmental record centres (LERCs) in 2022¹:
 - Norfolk Biodiversity Information Service (NBIS)
 - Suffolk Biodiversity Information Service (SBIS)
 - Essex Field Club (EFC).
- 3.1.3 Local record centres also provided the locations on non-statutory County Wildlife Sites (CWS) and Local Wildlife Sites (LWS). These sites were reviewed for any mention of SPI within their citation.
- 3.1.4 Google Earth aerial imagery and known distribution of species were used to assess the suitability of habitats within the Order Limits, and the potential for SPI species to be present.
- 3.1.5 A search for statutory designated sites with 2 km of the Order Limits was conducted using Multi-Agency Geographic Information for the Countryside (MAGIC) maps (Natural England, 2025). These included Sites of Special Scientific Interest (SSSI), SPA, SAC and Ramsar sites. These sites were reviewed for any mention of SPI within their citation.

3.2 Survey Methodology

3.2.1 No specific targeted surveys for the SPI covered within this report have been conducted for the Project. However, incidental findings of the SPI covered within this report were digitally record on GIS enabled tablets whilst carrying out targeted surveys for flora and fauna across the Project, allowing for approximately 90% of the land within the Order Limits to be surveyed.

3.3 Dates of Survey and Personnel

3.3.1 No targeted surveys for the SPI species covered within this report have been undertaken, however their presence has been noted when identified during other ecological surveys conducted by the Project.

¹ Updated baseline data was not obtained following initial receipt in 2022 as this data was required to determine the 'presence' and distribution of SPI species within the Study Area.

3.4 Notes and Limitations

- 3.4.1 Records held by LERC are collected on a voluntary basis; therefore, the absence of records does not demonstrate the absence of species, it may simply indicate a gap in recording coverage. The data collection is not exhaustive and can be biased towards areas with public access or where surveys have taken place to inform other development projects. It is therefore possible that there are SPI present within/adjacent to the Order Limits that are not identified during the data searches.
- 3.4.2 There may be some bias towards the species that are recorded as some of the SPI may be harder to detect due to the nature of their ecology (for example, crepuscular species) or their general behaviour (quiet and more secretive). Therefore, some species may have fewer records due to the difficulty in observing them.
- 3.4.3 LERC data relies on contributions from multiple sources, including citizen scientists, volunteers, and professionals. LERC data may not be regularly updated or maintained, leading to potential gaps in recent data or changes in ecological conditions. This can limit the accuracy and relevance of the data.
- 3.4.4 It is for these reasons that habitat suitability assessments were carried out and that incidental sightings of the SPI species covered within this report were recorded as part of ecological surveys for the Project.
- 3.4.5 This report is based on desk study and field survey information that was available up to and including the end of March 2025.

4. Results

4.1 Overview

- 4.1.1 This section provides the results of the SPI assessment using findings from the desk study as well as the habitat suitability assessment, and incidental finds during ecological surveys undertaken for the Project.
- 4.1.2 Figure A8.14.1: SPI desk study and incidental records, in Annex A presents the results of the desk study.

4.2 Desk Study Results

4.2.1 The habitat suitability assessment identified several SPI species based on natural range and recorded habitats that are unlikely to be affected by the Project. Details of this assessment are provided in Table A8.14.3.

Table A8.14.3 SPI species unlikely to be affected by the Project

Taxon Group	Species	Reason	
Algae	All species	All SPI alga species are marine. The marine environment is not within the Zone of Influence (ZoI) for the Project and so algae are not considered further.	
Sharks/ Skates/ Rays	All species	All SPI shark/skate/ray are associated with marine waters. As stated above, the marine environment is not within the ZoI for the Project and shark/skate/ray are not considered further.	
Amphibians	Pool frog	Pool frog <i>Pelophylax lessonae</i> has a very restricted distribution in the UK it is found in locations where it has been re-introduced. No re-introduction sites have been identified within the Order Limits or the 2 km Study Area. Pool frog is not within the ZoI for the Project and not considered further.	
	Natterjack toad	Natterjack toad <i>Epidalea calamita</i> has a very restricted distribution in the UK, it is found in locations where it has been re-introduced and/or designated sites. It is found in Norfolk and Suffolk, but these locations are outside the Order Limits and beyond the 2 km Study Area. Natterjack toad is not within the ZoI for the Project and not considered further.	
Turtles	All species	All SPI turtle species are associated with marine waters. As stated above, the marine environment is not within the ZoI for the Project and turtles are not considered further.	

- 4.2.2 Five SPI species, that have not been subject to targeted surveys (as detailed in Section 1.1) that have the potential to occur within the Study Area have been identified. These are:
 - Common toad Bufo bufo
 - Brown hare Lepus europaeus
 - Harvest mouse Micromys minutus
 - Hedgehog Erinaceus europaeus
 - Polecat Mustela putorius.
- 4.2.3 As shown in Table A8.14.4 and on Figure A8.14.1: SPI desk study and incidental records in Annex A, the desk study data obtained from the LERCs outlined a total of 28 records for these five SPI within the Order Limits, with another 1,253 records found to be within the Study Area.

Table A8.14.4 Desk study results

Project Section(s)	Species	No. Records within Order Limits	No. Records within 2 km of Order Limits
B, E, F, G and H	Common toad	0	41
B, C, E, F, G and H	Brown hare	8	78
B, C, F and H	Harvest mouse	1	4
A, B, C, D, E, F, G and H	Hedgehog	19	1,112
A, B, C, D, E and F	Polecat	0	18

- 4.2.4 The suitability of the habitats affected by the Project to support these species is outlined below.
- 4.2.5 A search of the citations for the statutory designated sites of nature conservation importance within 2 km of the Order Limits did not mention of any these five species in the citations for the Local Nature Reserves, SSSI, SPA, SAC and Ramsar sites. Similarly, a review of the descriptions for the non-statutory designated sites of nature conservation importance including CWS, LWS and Roadside Nature Reserves did not mention any of these five species. This reflects the fact that many of these sites will have been designated before these five species became species of conservation concern. Therefore, it is likely that these species will be present in areas of suitable habitat within these sites.

Common Toad

4.2.6 Common toad is a widespread species found throughout mainland Britain. During the breeding season in spring (typically February/ March), it requires deep waterbodies: ponds, lakes, gravel pits etc. After the breeding period (usually a week), the adults spend the rest of the year in terrestrial habitats including woodland, hedgerows and rough grassland that can be up to 2 km from the main breeding pond.

- 4.2.7 There are aquatic habitats (ponds) and suitable terrestrial habitats (woodland, hedgerows, and tussocky/unmanaged grassland) within the Order Limits in all Project Sections.
- 4.2.8 The desk study identified no records within the Order Limits but 41 records within 2 km of the Order Limits in Project Section B, C, E, F, G and H.
- 4.2.9 It is highly likely that common toad is present in all Project Sections in suitable habitat within the Order Limits, where there are suitable breeding ponds nearby.

Brown Hare

- 4.2.10 In the UK, brown hare is a widespread species, predominantly found in low-lying areas. Suitable habitats are woodland edge, hedgerows, rough grassland, and arable fields. These habitats are used for resting, foraging, hibernation as well as breeding.
- 4.2.11 Arable fields, grassland, hedgerows, and woodland edge are present within the Order Limits, with good connectivity between the habitats.
- 4.2.12 The desk study identified eight records within the Order Limits with another 78 records within the Study Area in Project Sections B, C, E, F, G and H.
- 4.2.13 It is highly likely that brown hare is present in all Project Sections in suitable habitat within the Order Limits.

Harvest Mouse

- 4.2.14 Harvest mouse is found in tall grassland, reeds, arable land, and hedgerows. These habitats are present within the Order Limits with good connectivity between them.
- 4.2.15 The desk study identified one record within the Order Limits with another four records within 2 km of the Order Limits in Project Sections B, C, F and H.
- 4.2.16 It is highly likely that harvest mouse is present in all Project Sections in suitable habitat within the Order Limits and that the lack of records in some Project Sections is because this species is under recorded.

Hedgehog

- 4.2.17 In the UK, hedgehog is a widespread species (also known as European hedgehog). Suitable habitats are woodland edge, hedgerows, and tussocky/unmanaged grassland, which is used for resting, foraging, hibernation as well as breeding.
- 4.2.18 There are tussocky/unmanaged grasslands, hedgerows, and woodland edge within the Order Limits with good connectivity between these habitats.
- 4.2.19 The desk study identified 19 records within the Order Limits with another 1,112 records within 2 km of the Order Limits in all Project Sections.
- 4.2.20 It is highly likely that hedgehog is present in all Project Sections in suitable habitat within the Order Limits.

Polecat

- 4.2.21 Polecat is a solitary animal associated with lowland arable habitats, interspersed with tussocky/unmanaged grassland, hedgerows, and woodland edge. These habitats are present with good connectivity within the Order Limits.
- 4.2.22 The desk study identified no records within the Order Limits but 18 records within 2 km of the Order Limits in Project Sections A, B, C, D, E and F.
- 4.2.23 It is likely that polecat is present in suitable habitat within the Order Limits in the Project Sections, it is possible that it is under recorded and present in suitable habitat in the Order Limits.

4.3 Field Survey Results

- 4.3.1 Incidental records of brown hare have been reported during ecological field surveys within the Order Limits and within 2 km. There were 19 incidental records of 32 sightings of brown hare from field surveys up to the end of March 2025.
- 4.3.2 The locations of these records in relation to Project Sections are shown on Table A8.14.5 and shown on Figure A8.14.1: SPI desk study and incidental records in Annex A.

Table A8.14.5 Brown Hare sightings

Project Section(s)	No. of brown hare within Order Limits	No. of brown hare within 2 km of Order Limits
A	1	1
В	No. not specified	1
С	0	10
D	1	1
Е	0	5
F	1	6
G	0	3
Н	0	0

4.3.3 No incidental sightings of common toad, harvest mouse, hedgehog or polecat were recorded during the field surveys that were undertaken for the Project. Nevertheless, as outlined below these species are likely to be present.

4.4 Conclusion

4.4.1 A review of desk study data and habitat suitability within the Order Limits has revealed that five SPI, not subject to targeted surveys, have the potential to be affected by the Project. Using a combination of desk study data and habitat suitability

- assessment it appears that all five species may occur in suitable habitat across the Project.
- 4.4.2 Whilst no desk study records were provided for common toad in Project Section A and D and no incidental recordings of common toad were recorded during the surveys, it is highly likely that this common and widespread species would be present across the Project.
- 4.4.3 A combination of desk study and incidental sightings has found brown hare in suitable habitat across the Project.
- 4.4.4 The desk study records for harvest mouse were sparse reflecting the fact that the presence of this species is usually only revealed during targeted surveys. However, harvest mouse are likely to occur in suitable habitat in across the Project.
- 4.4.5 Hedgehog is readily recorded by members of the public as revealed by the records across the Project.
- 4.4.6 Polecat was recorded in Sections A, B, C, D, E and F and it may be that this species is absent from Section G and Section H due to the highly built-up/urban nature of these areas and the high risk of mortality that this species may experience. However, this absence of records may be due to the difficulty in recording this species. The potential presence of polecat is assumed as a precaution across the Project.

Abbreviations

Abbreviation	Full Reference
CWS	County Wildlife Sites
DCO	Development Consent Order
EFC	Essex Field Club
EIA	Environmental Impact Assessment
ES	Environmental Statement
LERC	Local Environmental Record Centres
LWS	Local Wildlife Sites
MAGIC	Multi-Agency Geographic Information for the Countryside
NBIS	Norfolk Biodiversity Information Service
NERC	Natural Environment and Rural Communities Act 2006
SAC	Special Areas of Conservation
SBIS	Suffolk Biodiversity Information Service
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site of Special Scientific Interest
Zol	Zone of Influence
WCA	Wildlife and Countryside Act

Glossary

Term	Description	
Aquatic Species	An organism that lives in water for the majority or all of its life.	
Biodiversity	The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems.	
County Wildlife Site	Non-designated areas of land important for their wildlife and nature conservation value. Designation in Suffolk.	
Environmental Statement (ES)	The main output from the EIA process, an ES is the report required to accompany an application for development consent (under the Infrastructure Planning (EIA) Regulations 2017) to inform public and stakeholder consultation and the decision on whether a project should be allowed to proceed. The EIA Regulations set out specific requirements for the contents of an ES for Nationally Significant Infrastructure Projects.	
European Protected Species	Animals and plants listed under the Habitats Directive and protected under the Conservation of Habitats and Species Regulations 2017, as amended.	
Fauna	All the animals in a given area.	
Flora	The plants within a particular habitat or region.	
Habitat	The natural home or environment of an animal, plant, or other organism.	
Local Nature Reserve	Sites dedicated by the Local Planning Authority under Section 21 of the National Parks and Access to the Countryside Act 1949 for nature conservation which have wildlife or geological features that are of special interest locally.	
Local Planning Authority	The public authority whose duty it is to carry out specific planning functions for a particular area.	
Local Wildlife Site	Non-designated areas of land important for their wildlife and nature conservation value. Designation in Essex.	
Marine Species	An Organism that lives in saltwater environments (e.g. oceans and seas).	
Mitigation	The action of reducing the severity and magnitude of change (impact) to the environment. Measures to avoid, reduce, remedy or compensate for significant adverse effects.	
Order Limits	The maximum extent of land within which the authorised development may take place.	

Term	Description
Priority species	Species identified as of principal importance in England, in accordance with requirements of the Natural Environment and Rural Communities Act 2006. These are based on the UK Biodiversity Action Plan Priority Species.
Ramsar	Wetlands of international importance designated under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat 1971.
Sites of Special Scientific Interest (SSSI)	SSSIs are protected by law under the Wildlife and Countryside Act 1981. They are important because they support rare or endangered fauna and flora, and they represent the United Kingdom's best wildlife and geological sites.
Special Areas of Conservation	Protected areas designated under the European Union's Habitats Directive (Council Directive 92/43/EEC) to conserve and protect rare, vulnerable, or endangered habitats and species of plants and animals that are considered of European importance.
Special Protection Area	An area designated under the European Union's Birds Directive (Directive 2009/147/EC) aimed at protecting rare, vulnerable, and migratory bird species and their habitats of European importance
Species	A group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.
Terrestrial Species	An organism which lives primarily on land.
Zone of Influence	The defined geographic area within which the project's environmental receptors are located.

Bibliography

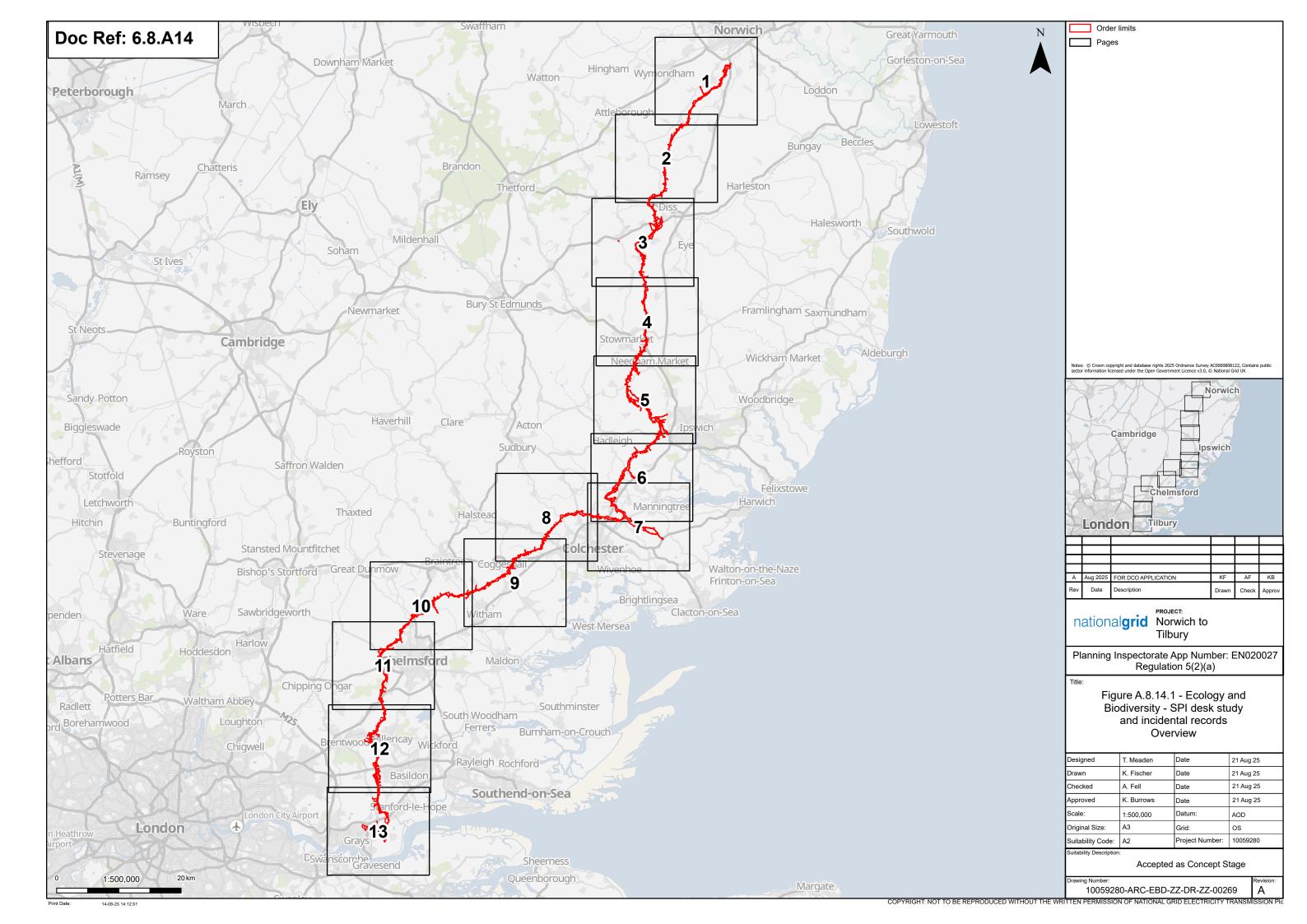
Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (No. 579). [online] Available at: https://www.legislation.gov.uk/uksi/2019/579/contents (Accessed: November 2024).

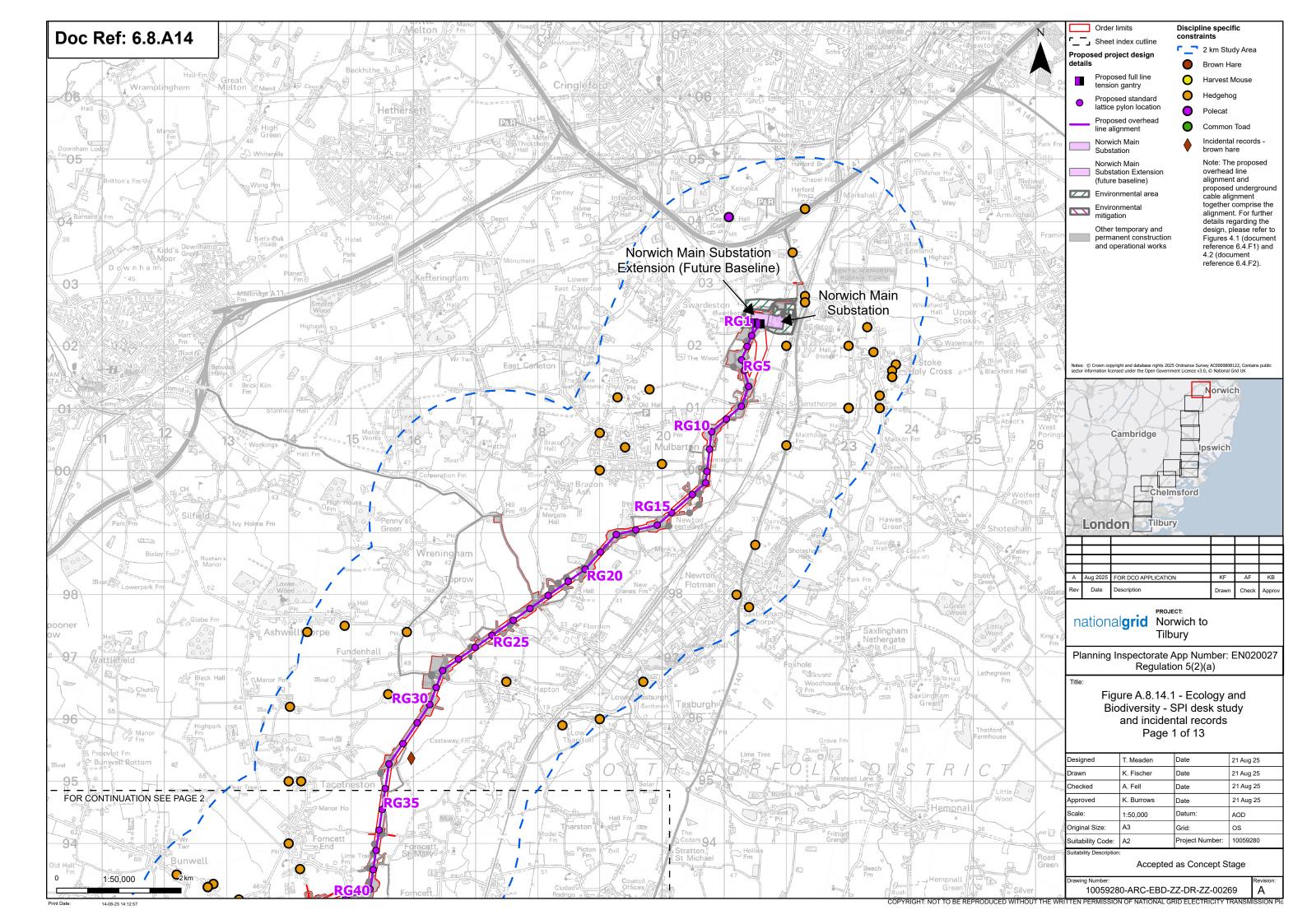
Natural England (2025) *MAGIC: Multi-Agency Geographic Information for the Countryside.* [online] Available at: https://magic.defra.gov.uk (Accessed: 13 June 2025).

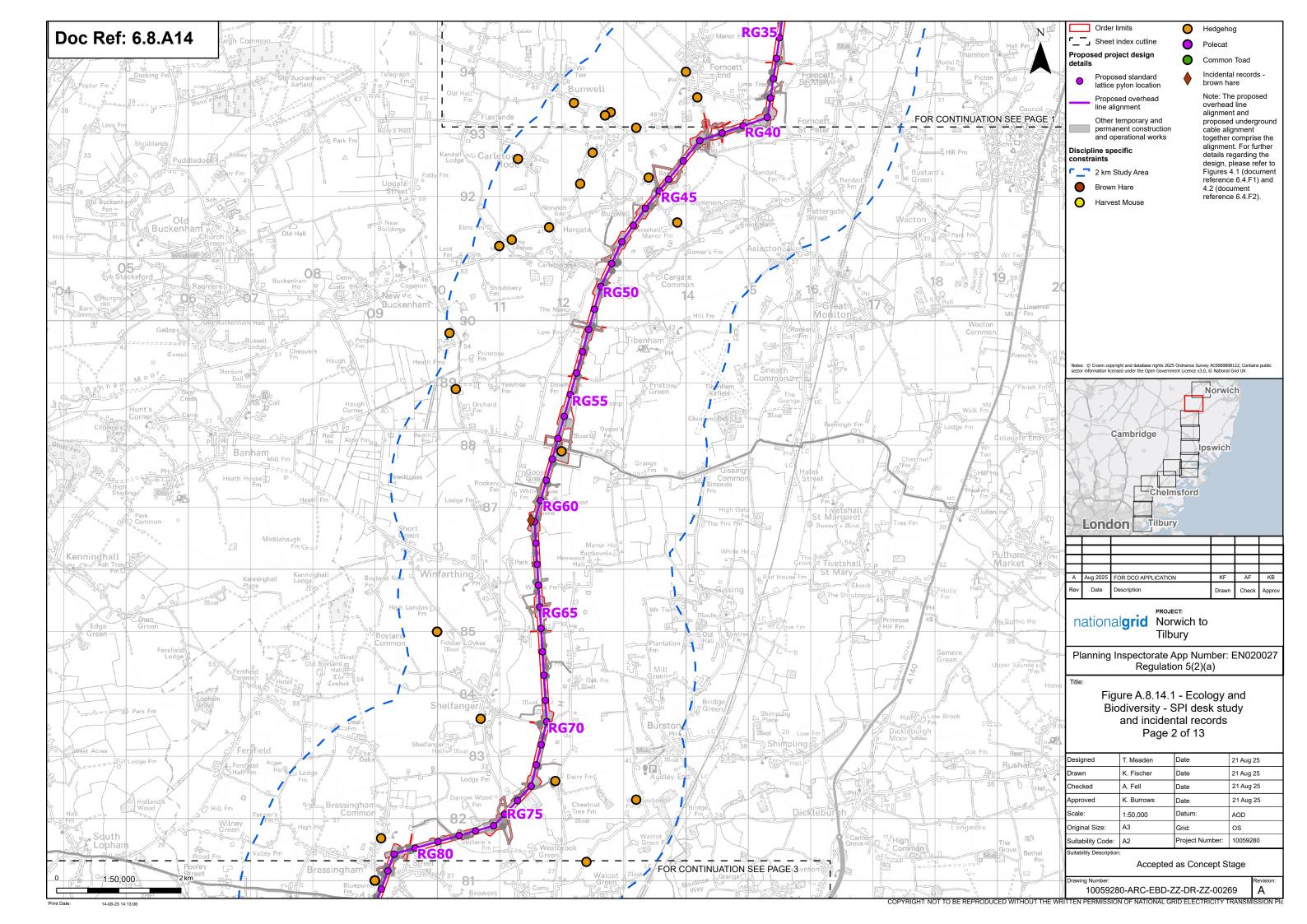
Natural Environment and Rural Communities Act 2006 (c.16). [online] Available at: https://www.legislation.gov.uk/ukpga/2006/16/contents (Accessed: 13 June 2025).

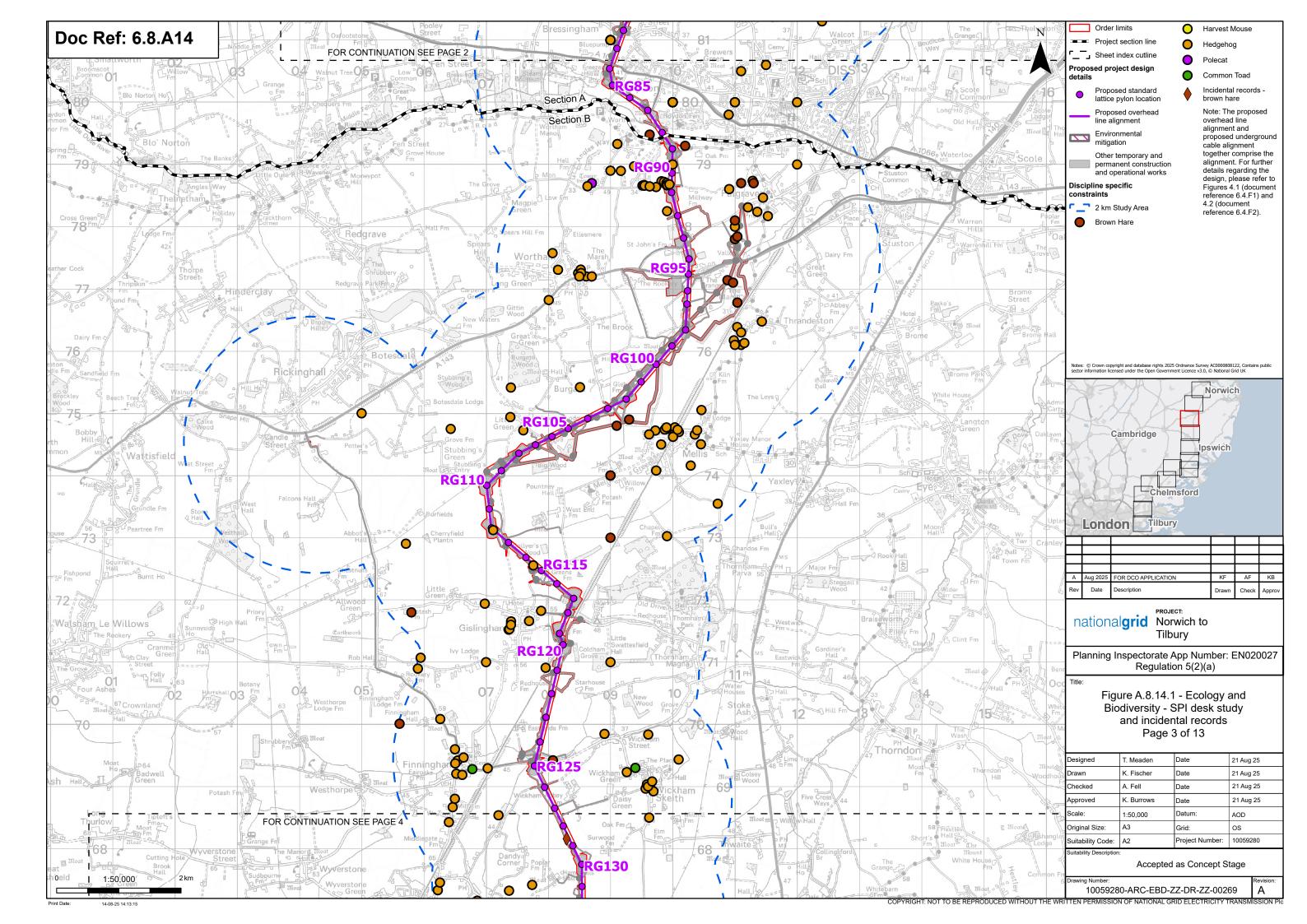
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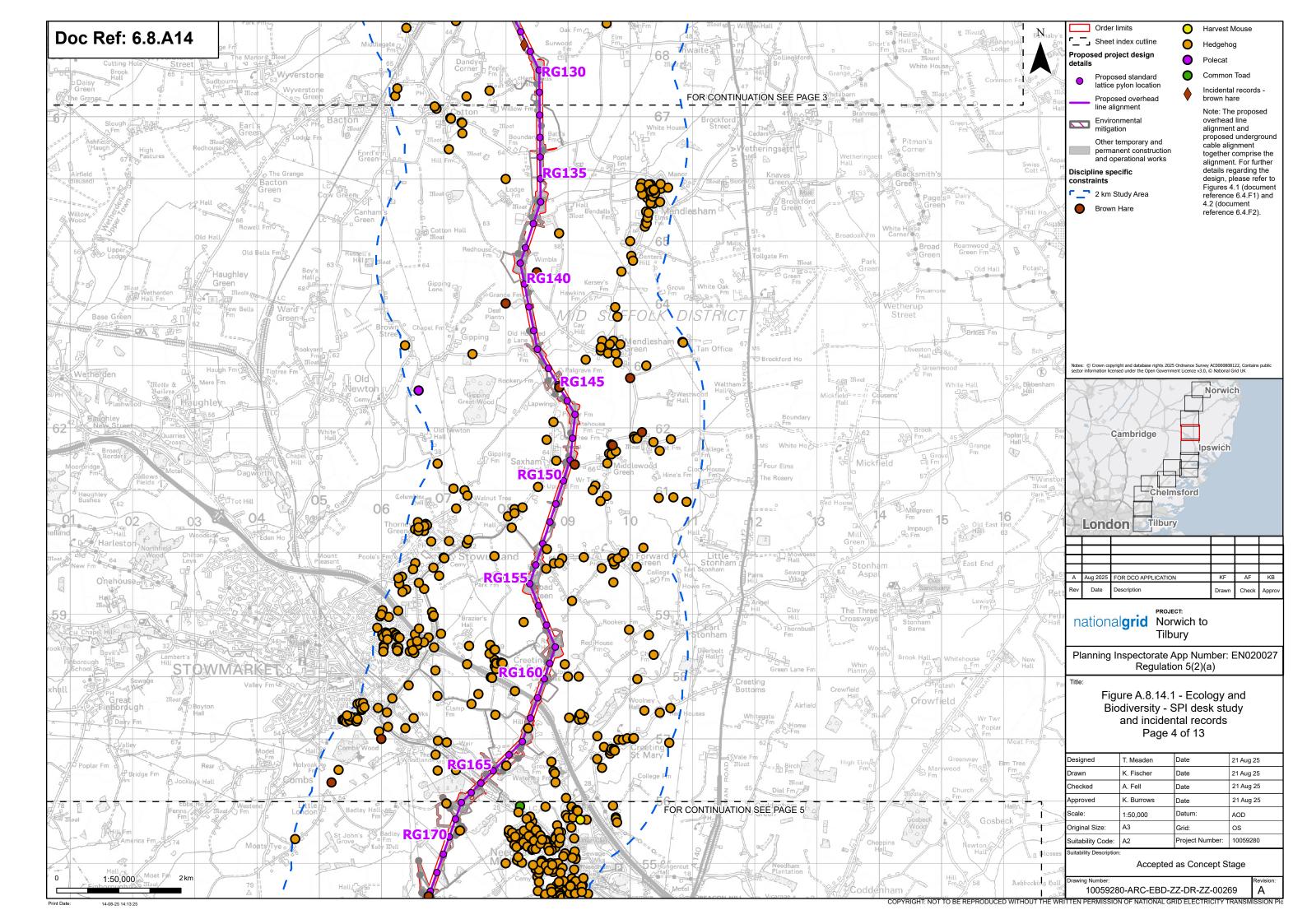
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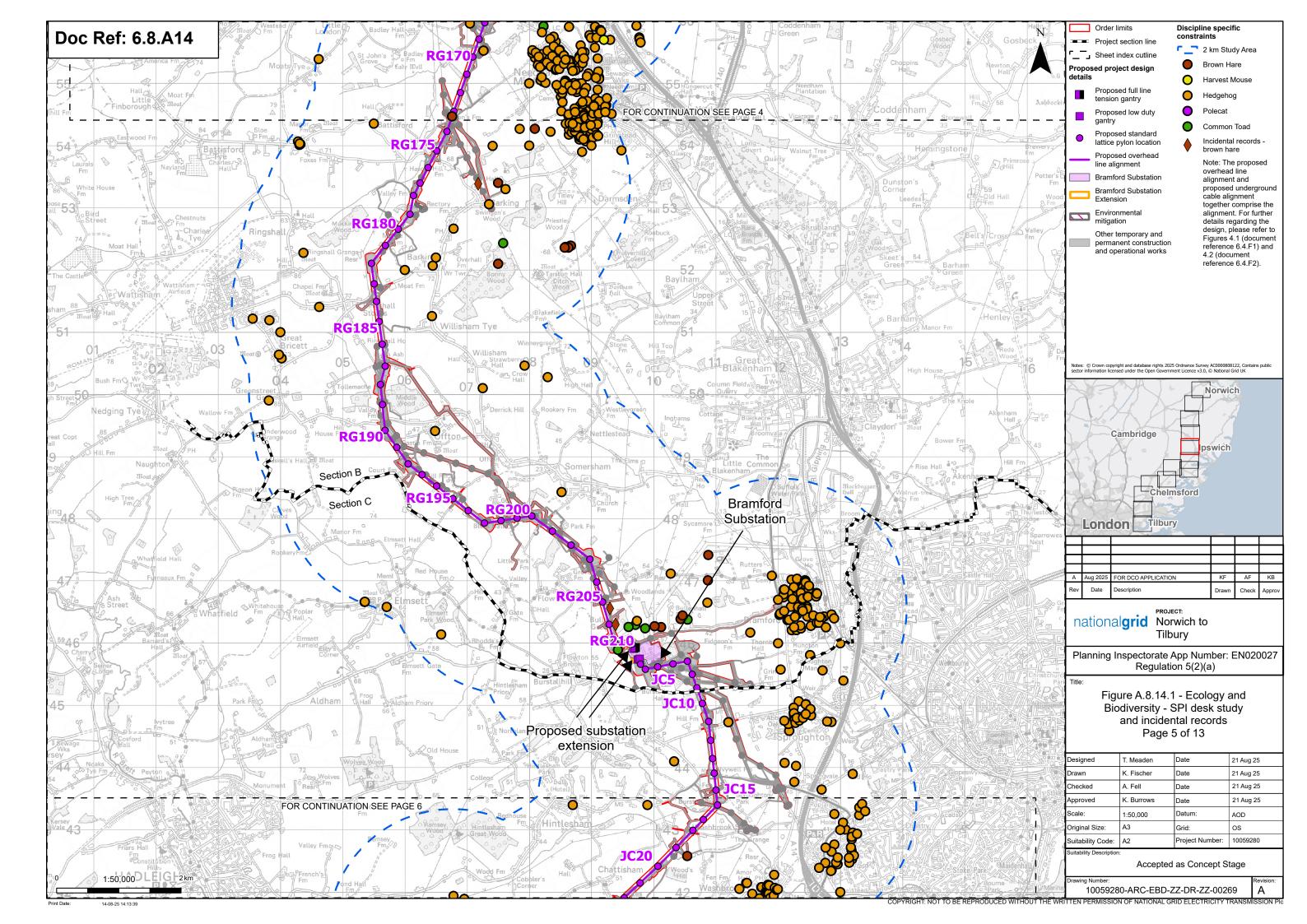


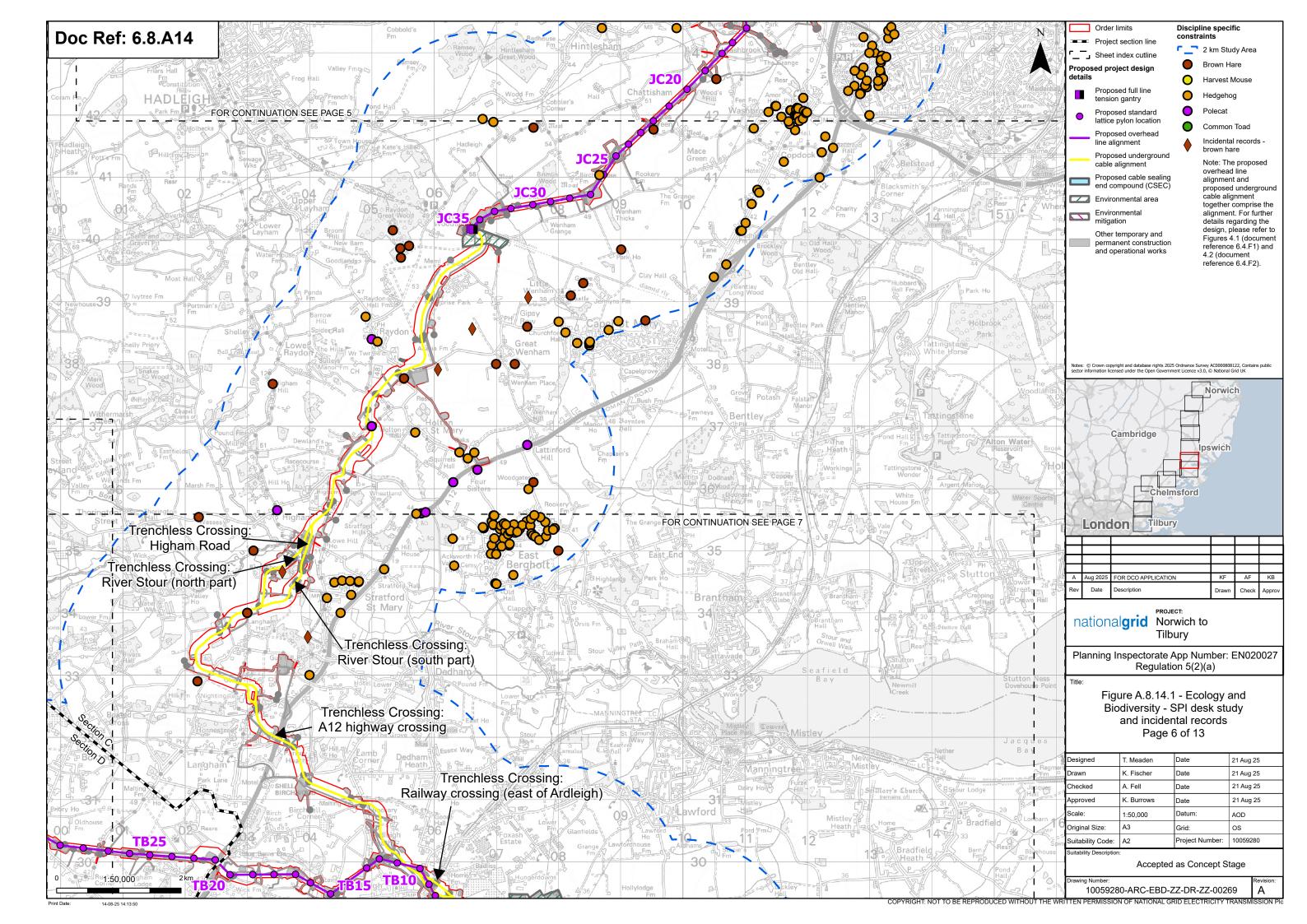


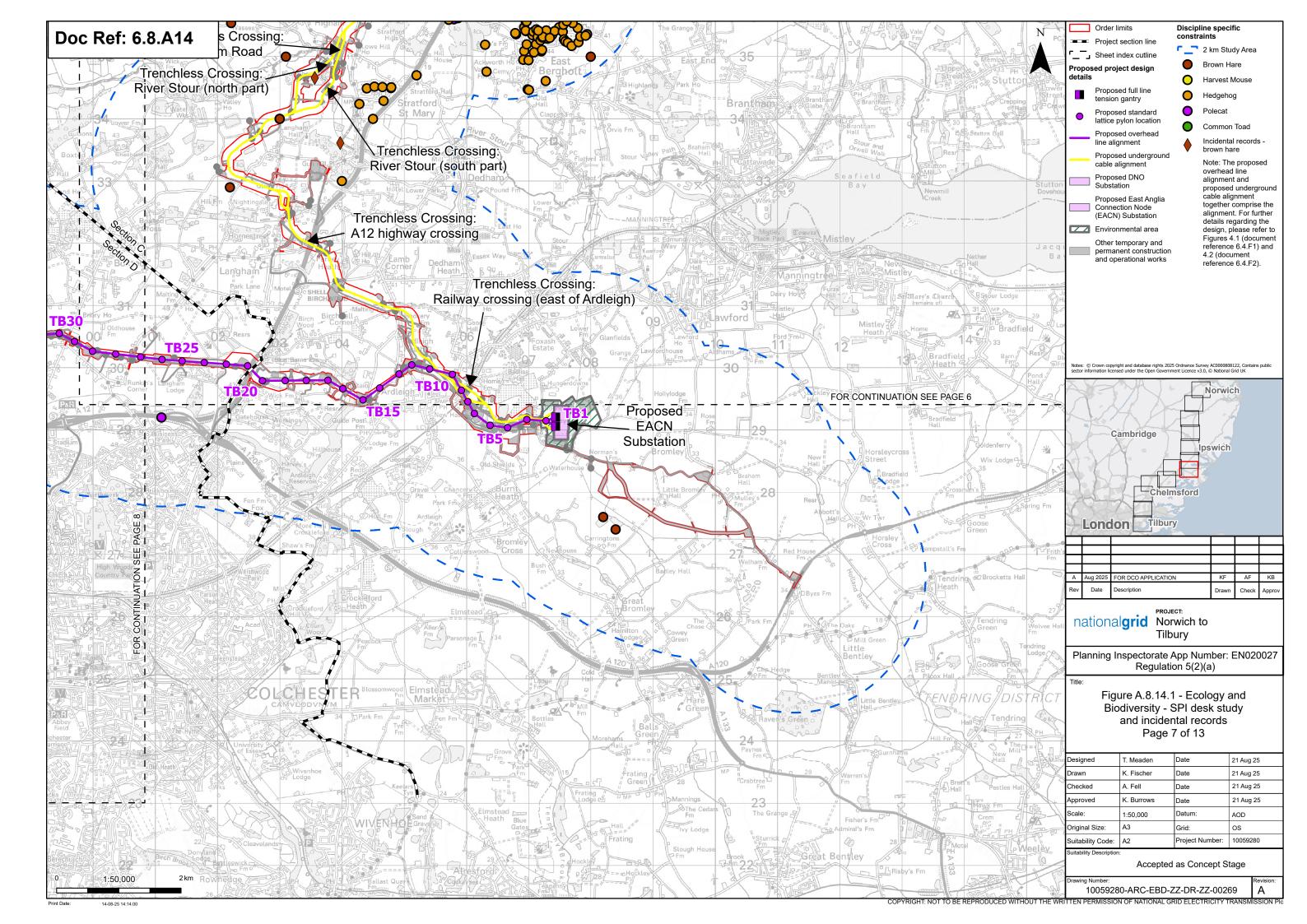


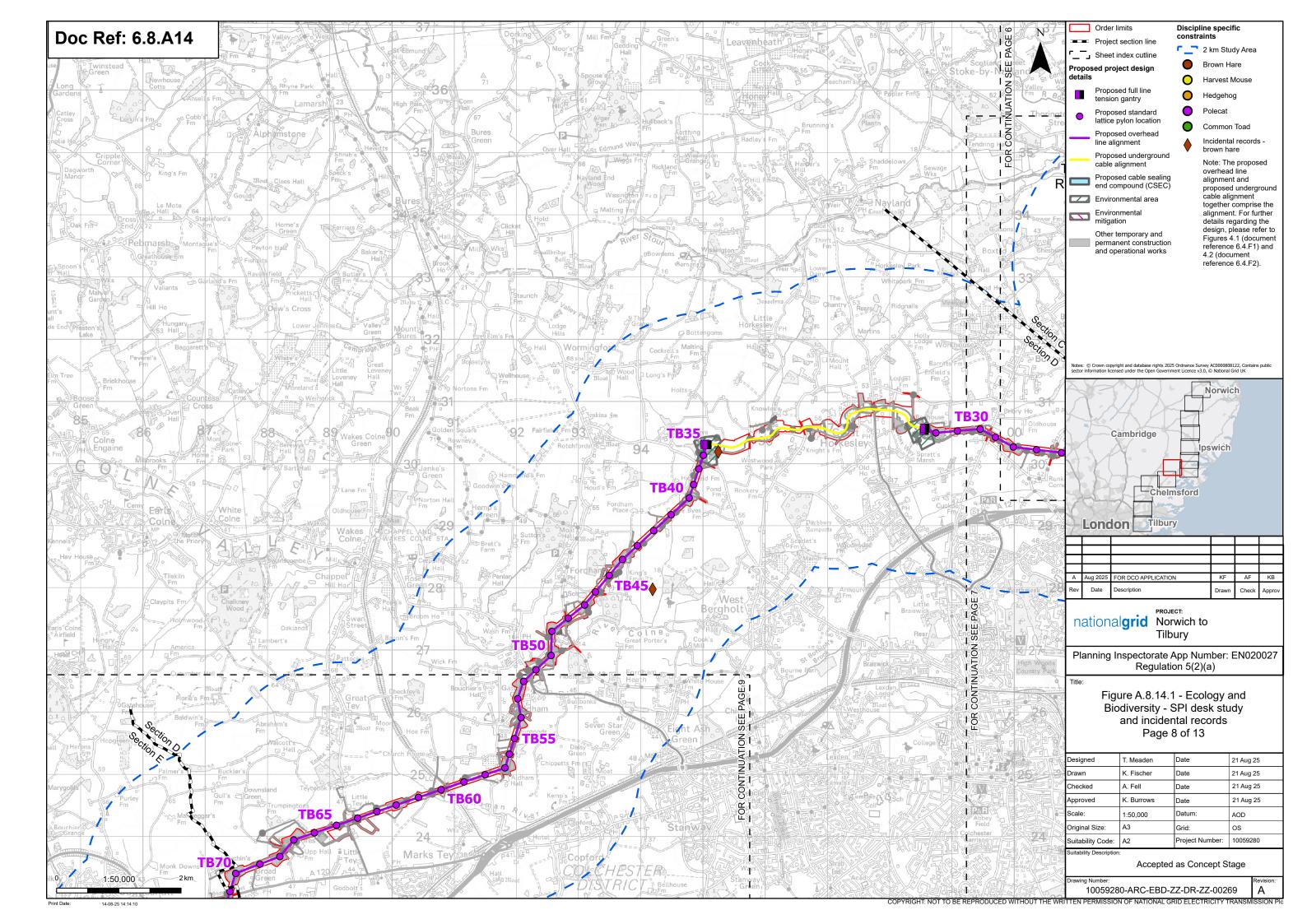


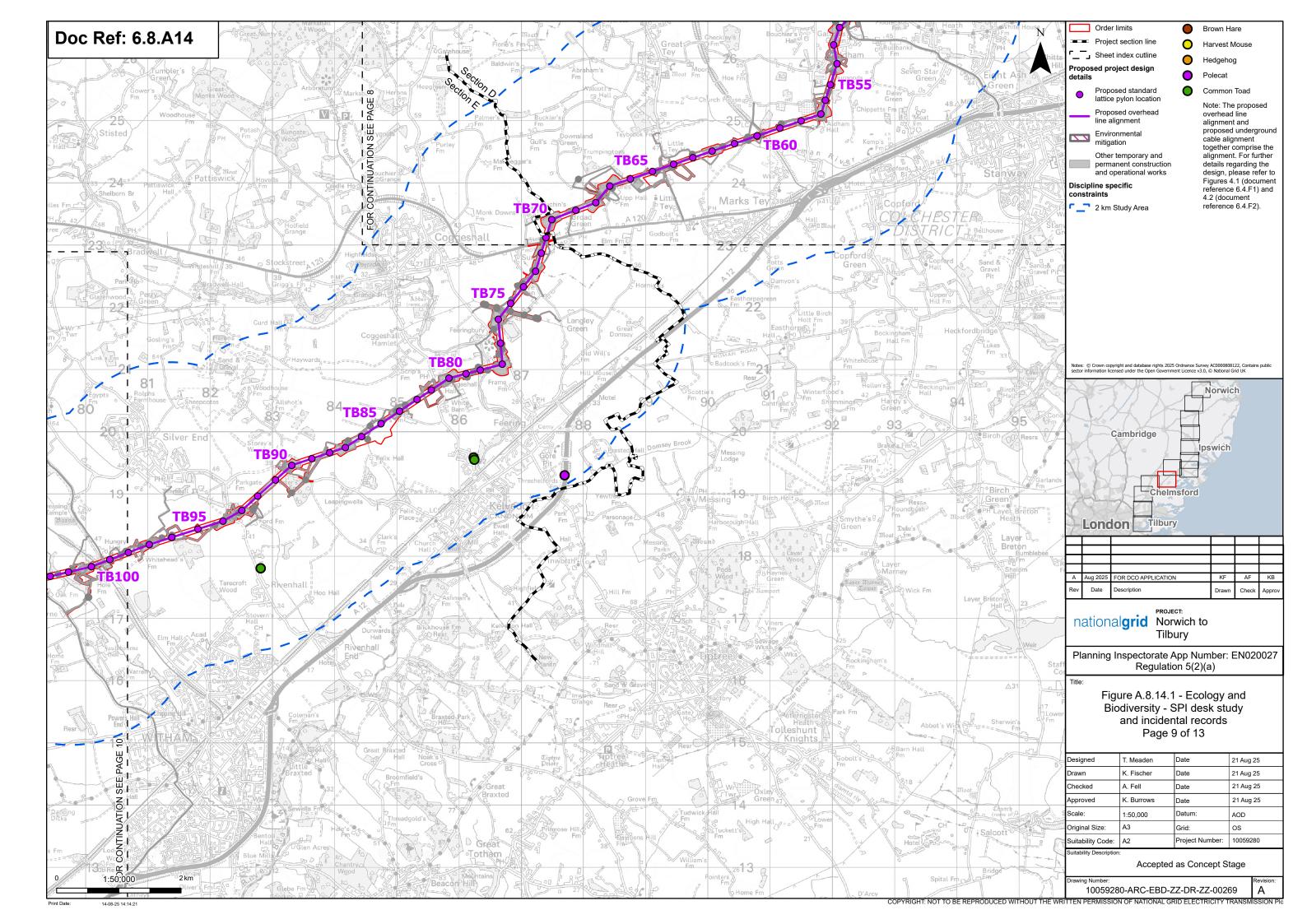


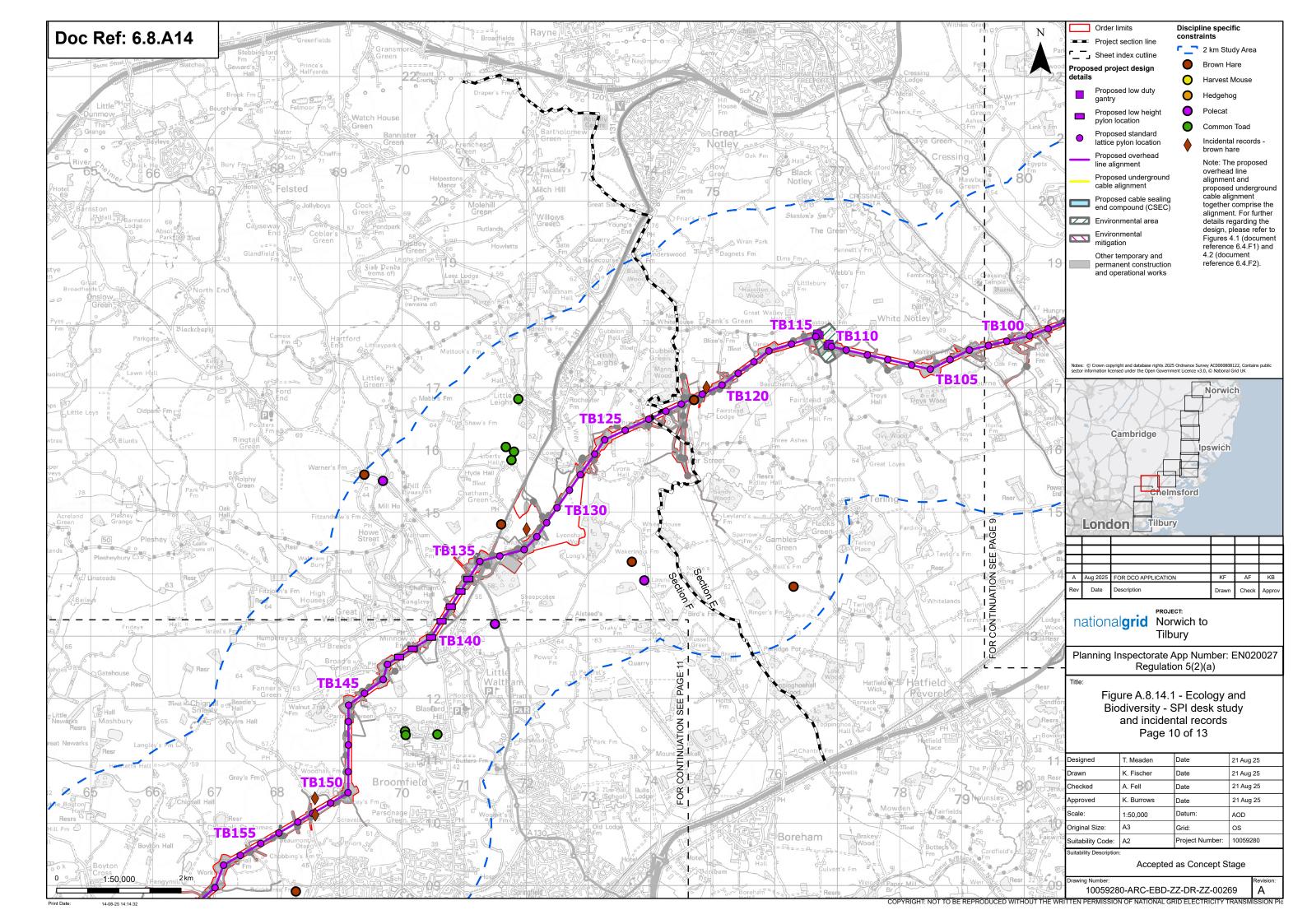


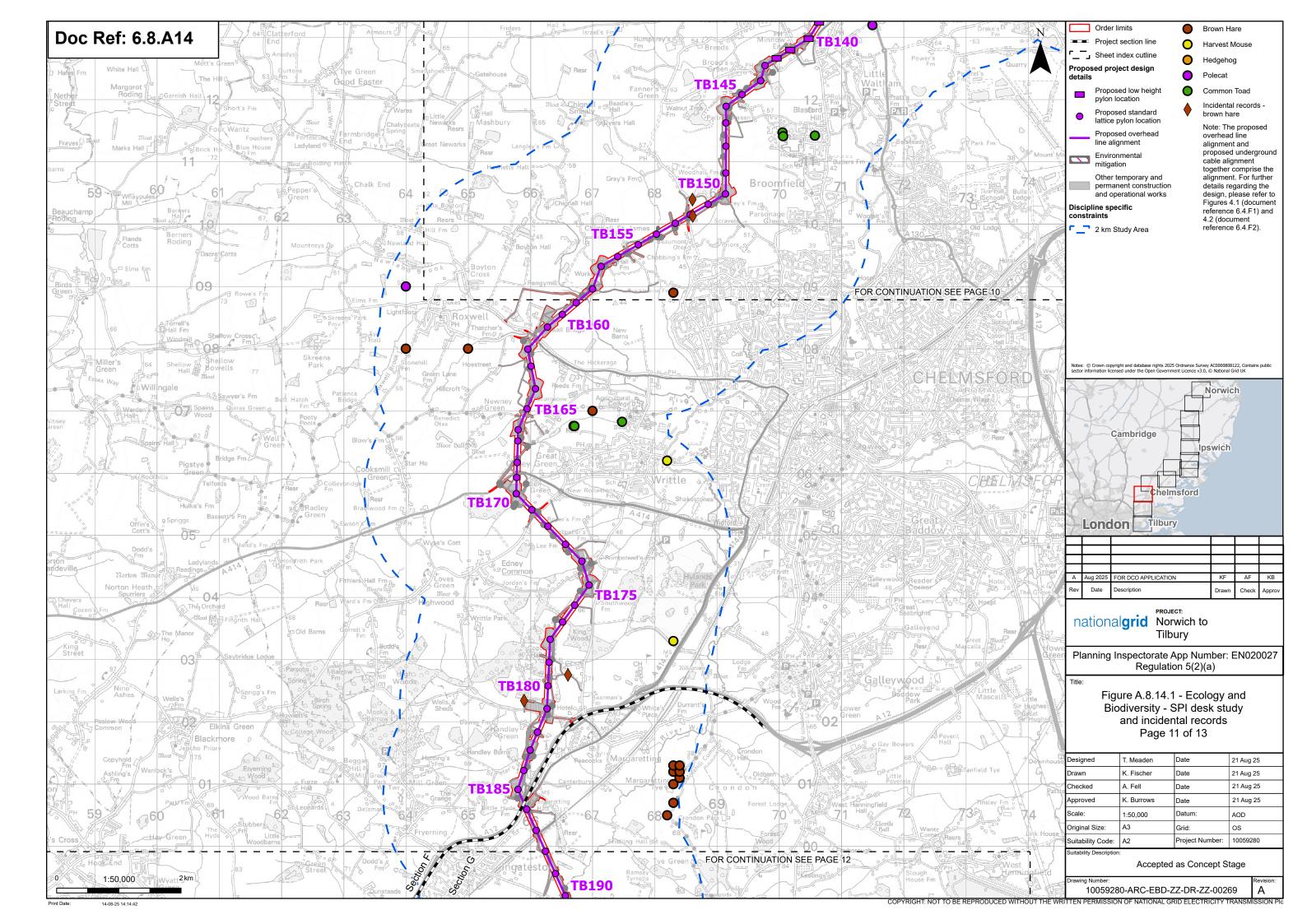


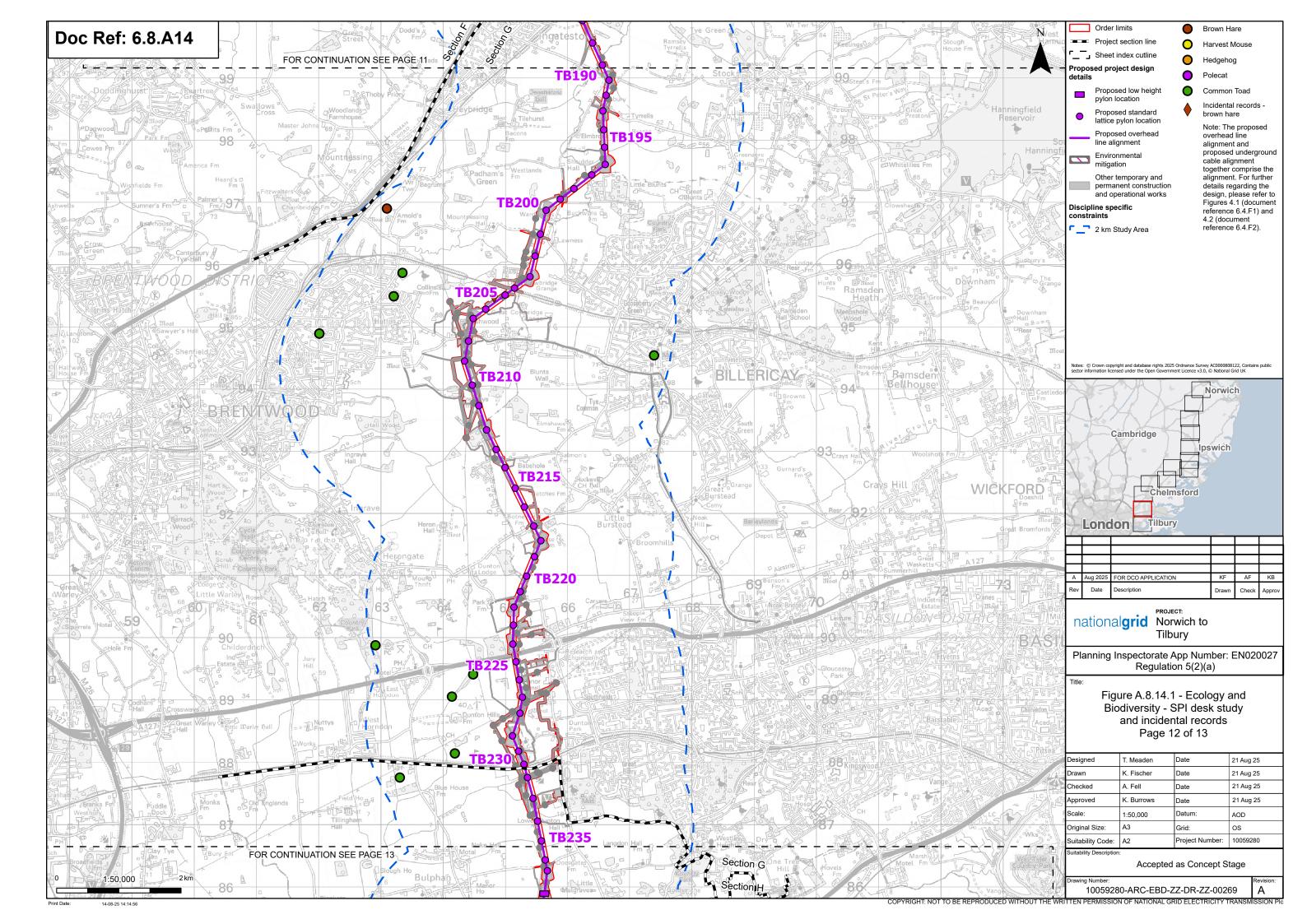


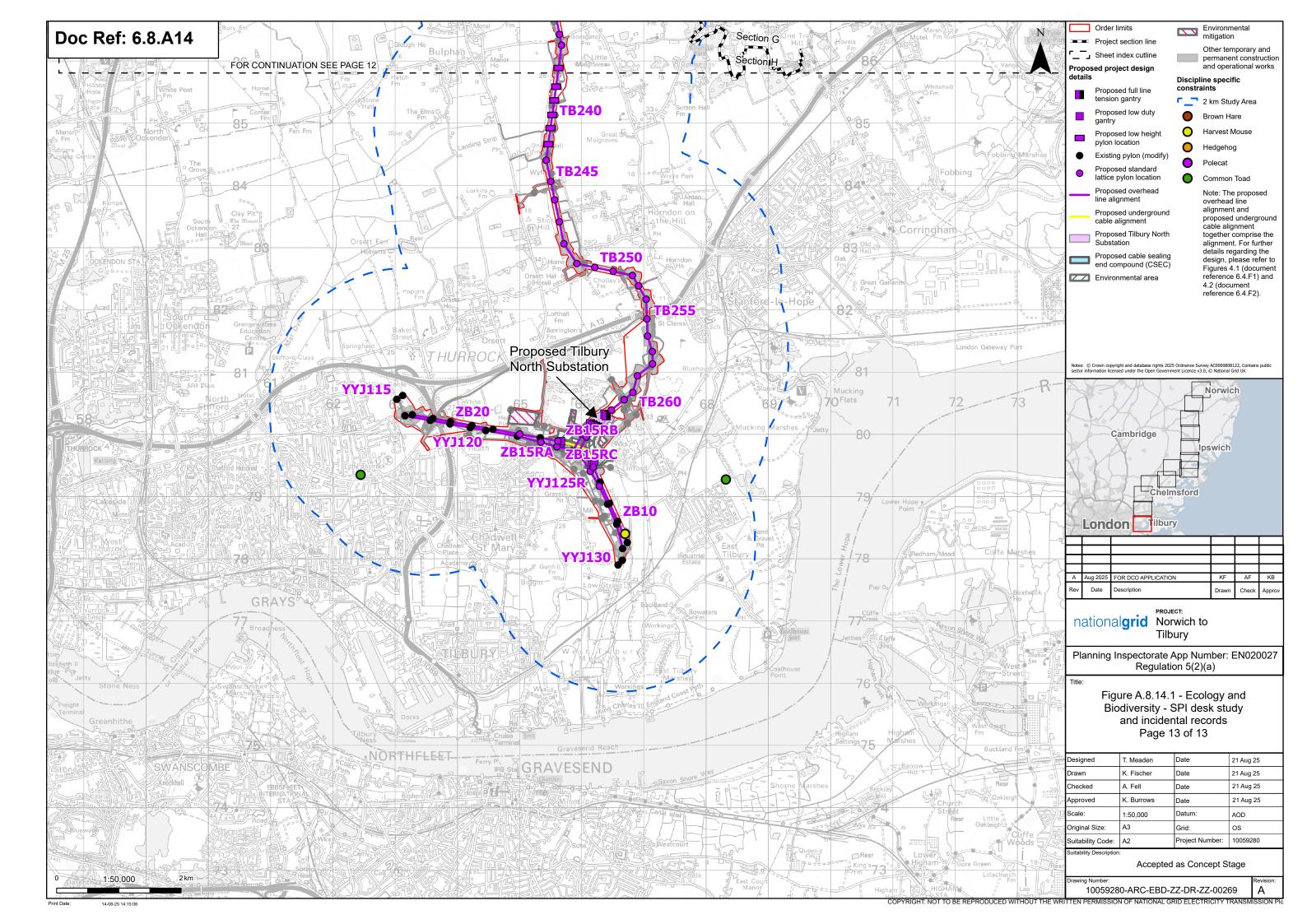












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