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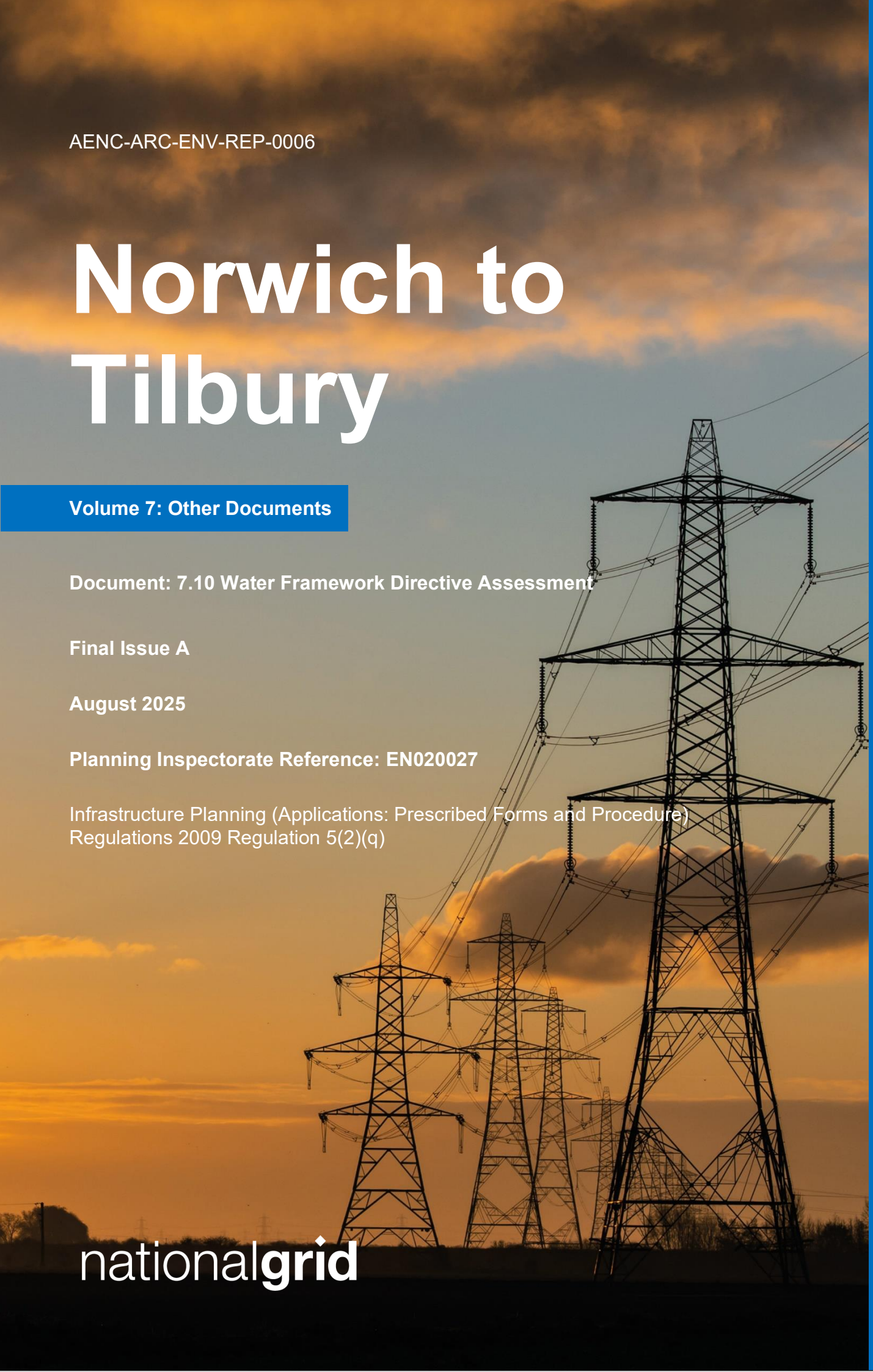

nationalgrid

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Executive Summary

Purpose of this Report

National Grid has developed plans for Norwich to Tilbury (the 'Project'). The Project would support the UK's net zero target through the connection of new low carbon energy generation in East Anglia and by reinforcing the transmission network.

The Project comprises reinforcement of the transmission network between the existing Norwich Main Substation in Norfolk and Tilbury Substation in Essex, via Bramford Substation, the new East Anglia Connection Node (EACN) Substation and the new Tilbury North Substation.

The Project includes construction of approximately 180 km of new 400 kV electricity transmission infrastructure, including approximately 159 km of new overhead line and approximately 21 km of underground cabling, along with associated infrastructure.

This report documents the Water Framework Directive (WFD) screening assessment undertaken for the proposed reinforcement. The assessment followed a staged approach.

Scope of the Assessment

The Study Area (or Zone of Influence (ZoI)) for this assessment, defined in Stage 1, includes land within the Order Limits, in addition to surface and groundwaters within 500 m of the Order Limits. This ZoI is justified on the basis of the nature of the proposed Project activities and has been agreed with the Environment Agency.

In Stage 2, the WFD waterbodies that were screened in were 39 surface waterbodies (including one transitional waterbody) and five groundwater bodies. Several watercourses that are not designated WFD waterbodies, drain to the screened in surface WFD waterbodies and the potential effects on these watercourses have been considered cumulatively within the assessment of the WFD waterbodies. Protected areas and Groundwater Dependent Terrestrial Ecosystems (GWDTEs) with a hydrological link to these waterbodies were also screened in.

Results of the Assessment

The initial assessment of the Project components, undertaken in Stage 3, concluded the potential for negative effects on surface waterbodies linked to the following activities:

- General construction (including use of haul roads)
- Construction waste handling/treatment
- Drilling for trenchless crossings
- Dewatering of excavations
- Watercourse crossings – culverting
- Watercourse crossings – structures spanning watercourses (new open-span bridges)
- Permanent infrastructure within the Project boundary (Cable Sealing End (CSE) compounds and substations).

With regard to groundwater bodies, the review of the Project components concluded the potential for negative effects linked to general construction (including use of haul roads), construction waste handling/treatment, drilling for trenchless crossings, excavations for underground cable trenches and foundations (including dewatering) and permanent infrastructure within the Project boundary (CSE compounds, substations and underground cable).

This Stage 4 assessment concludes that the residual effects of the screened in activities on the screened in waterbodies would be negligible following implementation of the embedded and standard mitigation measures outlined in this report. There would be no deterioration at the waterbody scale and the Project would not prevent implementation of any planned measures set out in the relevant River Basin Management Plans. It also demonstrates that there would be no new or different effects allowing for flexibility within the Limits of Deviation.

This assessment concludes that the Project is compliant with the objectives of the WFD and on this basis, no further assessment is proposed and a derogation is not required. The assessment has been shared with the Environment Agency, and it has been confirmed that the Environment Agency is broadly satisfied with its conclusions.

1. Introduction

1.1 Overview

1.1.1 National Grid Electricity Transmission plc ('National Grid') owns and maintains the national high voltage electricity transmission network throughout England and Wales.

1.1.2 National Grid has developed plans for Norwich to Tilbury (the 'Project'). The Project would support the UK's net zero target through the connection of new low carbon energy generation in East Anglia and by reinforcing the transmission network.

1.1.3 The Project comprises reinforcement of the transmission network between the existing Norwich Main Substation in Norfolk and Tilbury Substation in Essex, via Bramford Substation, the new East Anglia Connection Node (EACN) Substation and the new Tilbury North Substation.

1.1.4 A summary of the Project is provided in Section 3.1 of this document, with full details provided in Environmental Statement (ES) Chapter 4 Project Description (document reference 6.4) and shown on ES Figure 4.1: Proposed Project Design (document reference 6.4.F1) and ES Figure 4.2: Proposed Project Design – Permanent Features (document reference 6.4.F2).

1.2 Water Framework Directive Requirements

1.2.1 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended) implemented the Water Framework Directive (WFD) in England and Wales. Under Section 2 of the European Union (Withdrawal) Act 2018, the 2017 Regulations continue to have effect in domestic law following the UK's withdrawal from the European Union.

1.2.2 The purpose of the WFD is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters. The Directive aims to prevent further deterioration in, and enhance, water quality, and promote sustainable water use.

1.2.3 Regulation 19 of the 2017 WFD Regulations allows derogation from the aims of the WFD. This only applies to:

- New modifications to the physical characteristics of a surface water body,
- Alterations to the level of bodies of groundwater, or
- Deterioration from high to good status for surface water bodies related to new sustainable development activities.

1.2.4 Derogation is only allowed under the conditions set out in Regulation 19(3) to (5) and any reliance on derogations should be a last resort, with all practicable steps taken to mitigate adverse impacts on the status of WFD waterbodies.

1.2.5 The 2017 Regulations require the 'appropriate agency' i.e., the Environment Agency, for England, to prepare River Basin Management Plans (RBMPs) for each river basin district, for approval by the Secretary of State.

1.2.6 The RBMPs describe the current state of the water environment for each river basin district, the pressures affecting the water environment, the objectives for protecting and improving it, and the programme of measures needed to achieve the statutory environmental objectives of the WFD (i.e., to enable water bodies to achieve 'Good' status). The overarching requirement was that they should reach at least 'Good' status (or potential) by 2015. This date has been extended to 2027 for many waterbodies, where it was recognised that reaching the 2015 target would bring disproportionate burdens.

1.2.7 Under the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, an application for a Development Consent Order (DCO) must be accompanied by a plan with accompanying information identifying water bodies in the relevant RBMP, together with an assessment of any effects on such waterbodies likely to be caused by the development (Regulation 5). The relevant waterbodies are shown in the figure in Appendix A of this report. The assessment is documented in this report.

1.2.8 This report uses the term 'WFD waterbody' to describe a waterbody that is assigned a WFD waterbody identifier code within a RBMP.

1.3 Purpose of this Document

1.3.1 This report summarises Stages 1 to 3 and presents Stage 4 of the WFD Screening and assessment process as follows:

- Stage 1: Defining the Zone of Influence (ZoI) and identifying WFD waterbodies within the ZoI
- Stage 2: Collating baseline data for those waterbodies
- Stage 3: Screening Project components and activities to identify those with the potential to impact on WFD quality elements of waterbodies within the ZoI
- Stage 4: Comprises the preliminary assessment of the components of the Project screened in at Stage 3 against the WFD quality elements that make up the overall WFD status of screened in waterbodies. If this stage concludes potential for non-compliance with WFD objectives, a further stage of detailed assessment is required.

1.3.2 National Grid has embedded measures into the design of the Project to avoid or reduce significant effects that may otherwise be experienced during construction and operation of the Project. Embedded measures are those that are intrinsic to and built into the design of the Project.

1.3.3 National Grid has also identified several standard mitigation measures, which generally comprise measures imposed through legislative requirements or represent standard sector good practices. These include measures to reduce nuisance from construction activities. The standard mitigation measures are documented within the Outline Code of Construction Practice (CoCP) (document reference 7.2) and have been given a code, e.g. GG01, to allow the measures to be easily cross referenced.

1.3.4 The commitments relevant to the WFD screening assessment are referred to in this report and those from the Outline CoCP (document reference 7.2) are summarised in Appendix B.

1.3.5 The Outline CoCP (document reference 7.2) will be developed into the CoCP or multiple CoCPs (following detailed design) by the Main Works Contractor(s) to discharge Requirement 4 of the draft DCO (document reference 3.1). The CoCP(s) will follow the same format as the Outline CoCP (document reference 7.2) and will be developed prior to commencement of the main construction works commencing and adhered to throughout the construction phase.

1.4 Consultation

1.4.1 The document containing Stages 1 and 2 of the WFD assessment was shared with the Environment Agency in July 2024 and the Stage 3 report was shared with the Environment Agency in October 2024. A summary of Stages 1 to 3 has been provided in Section 3 of this report.

1.4.2 Feedback on the Stage 1 and 2 assessment was received from the Environment Agency (August 2024) and these comments are shown in Appendix C. The Environment Agency confirmed they did not have any significant comments. However, they noted that the screening of some WFD waterbodies would be dependent on whether the Waveney Valley Alternative design option was taken forward. This design alternative has not been adopted and no longer forms part of the Project proposals.

1.4.3 Feedback on the Stage 3 assessment was received from the Environment Agency (November 2024) and is shown in Appendix C. As noted above, comments linked to the Waveney Valley Alternative are no longer applicable as this no longer forms part of the Project proposals. The rest of the feedback has been addressed in this report, as summarised in Appendix C.

1.4.4 Feedback on Stage 4 of the assessment was provided by the Environment Agency in March and April 2025 (see Appendix C) and their comments and advice have been reflected in this report.

1.4.5 The staged approach taken, integrating consultation feedback from the Environment Agency, is in line with guidance in the revised Planning Inspectorate (2024) advice note on WFD, published in September 2024.

2. Project Description

2.1 General Description

2.1.1 The Project is a proposal by National Grid to upgrade the electricity transmission system in East Anglia between Norwich and Tilbury, comprising:

- A new 400 kilovolt (kV) electricity transmission connection of approximately 180 km overall length from Norwich Main Substation to Tilbury Substation via Bramford Substation, a new EACN Substation and a new Tilbury North Substation, including:
  - Approximately 159 km of new overhead line supported on approximately 509 pylons, either standard steel lattice pylons (approximately 50 m in height) or low height steel lattice pylons (approximately 40 m in height) and some of which would be gantries (typically up to 15 m in height) within proposed Cable Sealing End (CSE) compounds or existing or proposed substations
  - Approximately 21 km of 400 kV underground cabling, some of which would be located through the Dedham Vale National Landscape (an Area of Outstanding Natural Beauty (AONB[1])
- Up to seven new CSE compounds (with permanent access) to connect the overhead lines to the underground cables
- Modification works to connect into the existing Norwich Main Substation and a substation extension at the existing Bramford Substation
- A new 400 kV substation on the Tendring Peninsula, referred to as the EACN Substation (with a new permanent access). This is proposed to be an Air Insulated Switchgear (AIS) substation
- A new 400 kV substation to the south of Orsett Golf Course in Essex, referred to as the Tilbury North Substation (with a new permanent access). This is proposed to be a Gas Insulated Switchgear (GIS) substation
- Modifications to the existing National Grid Electricity Transmission overhead lines to facilitate the connection of the existing network into the new Tilbury North Substation to provide connection to the Tilbury Substation
- Ancillary and/or temporary works associated with the construction of the Project.

2.1.2 In addition, third party utilities diversions and/or modifications would be required to facilitate the construction of the Project. There would also be land required for environmental mitigation and Biodiversity Net Gain (BNG).

2.1.3 As well as the permanent infrastructure, land would also be required temporarily for construction activities including, for example, working areas for construction equipment and machinery, site offices, welfare, storage and temporary construction access.

[1] National Landscape is the rebranded name of an Area of Outstanding Natural Beauty (AONB) from 22 November 2023

2.1.4 The Project would be designed, constructed and operated in accordance with applicable health and safety legislation. The Project will need to comply with design safety standards including the Security and Quality of Supply Standard (SQSS), which sets out the criteria and methodology for planning and operating the National Electricity Transmission System (NETS). This informs a suite of National Grid policies and processes, which contain details on design standards required to be met when designing, constructing and operating assets such as those proposed for the Project.

2.1.5 Figure 1 in Appendix A shows the alignment of the Project and its key components. Full details of the Project design are shown on ES Figure 4.1: Proposed Project Design (document reference 6.4.F1) and ES Figure 4.2: Proposed Project Design – Permanent Features (document reference 6.4.F2).

2.2 Order Limits and Project Sections

2.2.1 The Order Limits are defined as the maximum extent of land within which the Project, as defined within the ES (Volume 6 of the DCO application), may be carried out, and includes both permanent and temporary land required to build and operate (and maintain) the Project.

2.2.2 The Project has also been sub-divided into eight geographical sections for reader accessibility, based largely on Local Planning Authority boundaries:

- 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 Borough Council
- Section G – Basildon Borough Council and Brentwood Borough Council (and part of Chelmsford City Council)
- Section H – Thurrock Council

2.3 Watercourse Crossings

2.3.1 The Project requires the crossing of multiple ditches, drains, ordinary watercourses and main rivers for temporary and permanent access, as well as for installation of the underground cable sections of the Project. Proposed overhead lines would oversail watercourses and their riparian corridors.

2.3.2 A review of the design of the Project has been undertaken to identify areas of the Project where works in, under and across watercourses would be required. This includes trenchless cable installation, open cut cable installation, culverts and open-span bridges to facilitate construction access. As these activities are classified as ‘red’ or ‘amber’ according to WFD risk screening thresholds for rivers (Environment Agency, 2016), all watercourse crossings in cable sections and for access are screened in for assessment at Stage 4.

2.3.3 Details of specific watercourse crossings are identified within ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2) and drawings showing typical details of crossings have been included in Appendix A of this report.

2.4 Construction Assumptions

2.4.1 Should consent be granted in 2027, it is anticipated that construction of the Project would commence in 2027, likely starting with enabling works including site clearance activities, the installation of temporary construction compounds and access roads. It is expected the main construction works would continue through to 2031 (four years). Prior to the enabling works commencing and before consent, a number of pre-construction environmental surveys would be undertaken in 2026.

3. Summary of Stages 1 to 3

3.1 Stage 1: Defining the Zone of Influence and Screening WFD Waterbodies

3.1.1 This stage of the screening assessment defines the ZoI of the Project and identifies which WFD surface water and groundwater waterbodies are present within the ZoI. It also screens those waterbodies to focus further stages of assessment only on those waterbodies having potential to deteriorate because of Project activities.

3.1.2 The ZoI is determined by considering the distance and hydrological connectivity between waterbodies and construction and operation activities/infrastructure. Waterbodies that are not considered to have the potential to be impacted, due to lack of direct or indirect connectivity, or due to distance, are screened out at this stage.

3.1.3 The ZoI for this assessment has been defined to include land within the Order Limits, in addition to land within 500 m of this boundary. This reflects the surrounding water environment and is sufficient for the inclusion of all potentially affected waterbodies. The proposed ZoI has been agreed with the Environment Agency through the consultation referred to in Section 1.4 of this report.

3.1.4 Within the ZoI there are several WFD surface water, transitional and groundwater bodies that are managed under the Anglian or Thames RBMP (Environment Agency, 2018a and Environment Agency, 2018b) which are described in the following sub-sections.

Surface Waterbody Screening

3.1.5 The surface waterbodies within the ZoI are shown in the figure in Appendix A. In addition to the WFD surface waterbodies, there are also several watercourses within the ZoI which are not assigned WFD identifiers in the RBMP. These include ordinary watercourses and drainage ditches. As these watercourses are situated in WFD operational catchments and drain to WFD surface waterbodies, Project activities with the potential to influence the attributes of these watercourses have also been considered in the assessment.

3.1.6 A screening of surface waterbodies has been carried out using the source-pathway-receptor principle, representing Stage 2 of the assessment. The screening results have been shared with and agreed by the Environment Agency through the consultation referred to in Section 1.4 of this report.

3.1.7 Several WFD waterbodies have been screened out. Table 3.1 summarises these and provides justifications for screening them out.

Table 3.1 Screened out surface (river) waterbodies within the ZoI

Waterbody Name	Justification
Intwood Stream	Very minor interactions with the Project, limited to Public Rights of Way mitigation works with an associated very low risk of impact on any quality elements of this waterbody.
Yare (Tiffey to Wensum), Dickleburgh Stream, Tiffey (upstream (u/s) Wymondham Sewage Treatment Works (STW)), Little Ouse (Hopton Common to Sapiston Confl), Thet (downstream (DS) Swangey Fen), Waveney (Frenze Beck to Dove), Crouch (A129 - Wickford)	Very minor interactions with the Project, limited to Primary Access Routes[2] along which some minor works are proposed (localised widening and changes to street furniture) with an associated very low risk of impact on these waterbodies.
Dove trib - Eye	Very limited interactions with the Project which comprise a 900 m length of permanent access road in the waterbody catchment. The access road would not cross the waterbody itself and has an associated very low risk of impact on any quality elements of this waterbody.
Jordan (East Suffolk)	Very minor interactions with the Project, limited to one proposed pylon, part of an associated pulling location[3], PRoW mitigation works and only short lengths of access roads (approx. 80 m of permanent access road and approx. 250 m of temporary access road) are within this waterbody catchment, with very low risk of impact on any quality elements of this waterbody due to the scale of activities in the context of the waterbody catchment.
Domsey Brook, Boreham tributary	These waterbodies are within the ZoI but there would be no Project activities or drainage discharges to watercourses in their catchments.

3.1.8 An overview of the hydrological relationship between the Project and the screened in waterbodies is included below in Table 3.2.

[2] Construction traffic would use the strategic road network and major road network to access the Project. From the major and strategic road networks, construction traffic would be routed along a Primary Access Route to a site access point. From these site access points, traffic would be routed off the public highway along haul roads to access the construction sites.

[3] Pulling location = bow-tie shaped area around a pylon where temporary works are undertaken for the overhead line to be attached to the pylon.

Table 3.2 Screened in WFD waterbodies within the ZoI

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
Section A	
Tas (Tasburgh to R. Yare) (GB105034051230)	This waterbody is not crossed by any of the Project activities, but the Norwich Main Substation, pylons and access roads (permanent and temporary) would be located in the catchment of this waterbody, remote from the waterbody itself. There would be drainage outfalls from the Project (permanent and temporary) to the ordinary watercourses within the catchment of this waterbody
Tributary of Tas (GB105034050950)	This waterbody flows through land within the Order Limits and pylons would be located within its catchment but remote from the waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. There would also be laydown areas during construction in the catchment.
Tas (Head to Tasburgh) (GB105034045730)	Pylons would be located within its catchment remote from the waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody and one crossing is proposed for the haul roads via an open span bridge. During construction there would be a temporary construction compound in the catchment of this waterbody.
Frenze Beck (GB105034045840)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylons at least 150 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody.
Waveney (US Frenze Beck) (GB105034045820)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 70 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody and a temporary single span bridge is proposed where the haul road would cross the waterbody.
Section B	
Tributary of Upper Waveney (GB105034045750)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the pylons at least 100 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction, temporary construction compounds would also be located in the catchment and works to third party infrastructure are proposed.

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	An open span bridge is proposed to facilitate the construction of the haul road crossing the waterbody.
Little Ouse (US Thelnetham) (GB105033043060)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment remote from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody and surface water drainage discharges from these roads would be received by tributaries of the waterbody.
Dove trib – Finningham (GB105034045660)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 140 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody (existing crossing to be used where waterbody itself would be crossed). During construction there would also be laydown areas in the catchment.
Mendlesham Stream (GB105034045650)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment remote from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody.
Gipping (US Stowmarket) (GB105035046180)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 190 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody, with a temporary single span bridge proposed to facilitate the of the construction road crossing the water body.
Gipping (d/s Stowmarket) (GB105035046280)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 110 m from the WFD waterbody itself. Works at Bramford Substation would be within the catchment of this waterbody but remote from the waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction there would also be temporary construction compounds in the catchment.
Wattisham Watercourse (GB105035040350)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 115 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction there

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	would also be temporary construction compounds/laydown areas in the catchment. A temporary single span bridge is proposed to facilitate the construction of the haul road crossing the waterbody.
Somersham Watercourse (GB105035040310)	This waterbody flows through land within the Order Limits. Although the overhead line would not cross the WFD waterbody itself, pylons would be located within its catchment with the nearest pylon approximately 210 m from the waterbody. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to facilitate the construction of the haul road crossing the waterbody. During construction there would also be temporary construction compounds/laydown areas in the catchment.
Belstead Brook (GB105035040440)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon over 130 m from the WFD waterbody itself. Works at Bramford Substation would be within the catchment of this waterbody but remote from the waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction there would also be temporary construction compounds/laydown areas in the catchment.
Section C	
Stutton Brook (GB105036040890)	This waterbody flows through land within the Order Limits. Although the underground section of the Project does not cross the WFD waterbody itself, an underground section of the Project would be located within its catchment. CSE compounds would be located in the catchment of this waterbody. During construction, temporary construction compounds/ laydown areas would be located in the catchment of this waterbody, as well as access roads (permanent and temporary). There would be drainage outfalls (temporary during construction) to the ordinary watercourses within the catchment of this waterbody. An open span bridge is proposed to facilitate the construction of the haul road crossing the waterbody.
River Brett (GB105036040930)	This waterbody flows through land within the Order Limits. Although the underground section of the Project does not cross the WFD waterbody itself, an underground section of the Project would be located within its catchment.

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	During construction, a temporary construction compound would be located within the catchment of this waterbody. There would be drainage outfalls (temporary during construction) to the ordinary watercourses within the catchment of this waterbody.
Stour (d/s R. Brett) (GB105036041000)	This waterbody flows through land within the Order Limits and would be crossed by an underground cable section of the Project using a trenchless technique. The waterbody itself would not be crossed by the overhead line but pylons would be located within its catchment (pylons over 5 km from the WFD waterbody itself). Temporary construction compounds would be located in the catchment of this waterbody. During construction there would be drainage outfalls (temporary) to the Stour and to ordinary watercourses within its catchment.
Stour (Lamarsh - R. Brett) (GB105036040942)	This waterbody flows through land within the Order Limits. Although the underground section of the Project does not cross the WFD waterbody itself, two underground sections of the Project would be located within its catchment. There would be drainage outfalls (temporary during construction) to the ordinary watercourses within the catchment of this waterbody.
Salary Brook (GB105037041320)	This waterbody flows through land within the Order Limits. Although the underground section of the Project does not cross the WFD waterbody itself, an underground section of the Project would be located within its catchment. The overhead line would cross Ardleigh Reservoir which is its own designated WFD waterbody (see below) but one which the Salary Brook flows through. Pylons would be located within the Salary Brook's catchment with the nearest being over 200 m from the waterbody itself. During construction, compounds/laydown areas would be located within the catchment of this waterbody, as well as access roads (permanent and temporary).
Ardleigh Reservoir (GB30539944)	The overhead line would cross Ardleigh Reservoir and, during construction, there would be a laydown area approximately 75 m from its banks.
Tenpenny Brook (GB105037041310)	This waterbody is not crossed by any of the Project activities, but an underground section of the Project would be located within its catchment. The new EACN Substation and pylons would be located within the catchment of this waterbody but remote from the waterbody itself.

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	Access roads (permanent and temporary) would be located in the catchment of this waterbody. There would be drainage outfalls (permanent and temporary) to the ordinary watercourses within the catchment of this waterbody.
Holland Brook (GB105037077810)	This waterbody would not be crossed by the Project activities, but there would be laydown areas and a Primary Access Route within its catchment, therefore there is a higher risk of pollution. These would be in excess of 100 m from the waterbody itself.
Section D	
Colne (d/s Doe's Corner) (GB105037041330)	This waterbody flows through land within the Order Limits. Although the underground section of the Project does not cross the WFD waterbody itself, an underground section of the Project would be located within its catchment. This waterbody would be crossed by the overhead line, with the nearest pylon over 60 m from the WFD waterbody itself. CSE compounds would be located in the catchment of this waterbody. During construction, temporary construction compounds would be located in the catchment of this waterbody, as well as access roads (permanent and temporary). There would be drainage outfalls (temporary during construction) to the ordinary watercourses within the catchment of this waterbody.
Roman River (GB105037034150)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 170 m from the WFD waterbody itself. During construction, temporary construction compounds would be located in the catchment of this waterbody as well as access roads (permanent and temporary). A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
Section E	
Blackwater (Combined Essex) (GB105037041160)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 120 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
Brain (GB105037041140)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 120 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody.
Ter (GB105037033940)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 190 m from the WFD waterbody itself. An underground section of the Project and CSE compounds would be located in the catchment of this waterbody but remote from it. During construction, temporary construction compounds would be located in the catchment of this waterbody as well as access roads (permanent and temporary). There would be drainage outfalls (permanent and temporary) to the ordinary watercourses within the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
Section F	
Chelmer (Gt Easton - R. Can) (GB105037033950)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 35 m from the WFD waterbody itself. During construction, temporary construction compounds would be located in the catchment of this waterbody as well as access roads (permanent and temporary).
Chignall Brook (GB105037033650)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 40 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
River Can (GB105037033840)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 140 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
Roxwell Brook (GB105037033540)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 120 m from the WFD waterbody itself.

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	Access roads (permanent and temporary) would be located in the catchment of this waterbody.
Wid (Margaretting Hall - R. Can) (GB105037033900)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment (pylons over 1.5 km from the WFD waterbody itself). A temporary construction compound and access roads (permanent and temporary) would be located in the catchment of this waterbody. These would drain surface water runoff to tributaries of the waterbody.
Wid (Ingatestone Hall - Margaretting Hall) (GB105037028690)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 75 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to facilitate the construction of the haul road crossing the waterbody.
Wid (Shenfield STW - Ingatestone Hall) (GB105037028670)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 130 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
Section G	
Wid (Doddinghurst Brook - Shenfield STW) (GB105037028680)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment (pylons over 150 m from this WFD waterbody). Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction there would also be a temporary construction compound in the catchment.
Haverings Grove Brook (GB105037028650)	This waterbody flows through land within the Order Limits and would be crossed by the overhead line, with the nearest pylon approximately 100 m from the WFD waterbody itself. Access roads (permanent and temporary) would be located in the catchment of this waterbody. A temporary single span bridge is proposed to cross the waterbody for the construction of the haul road.
Crouch (Upper) - US A129 (GB105037028500)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment (pylons over 800 m from the WFD waterbody itself). Access roads (permanent and temporary) would be located in the catchment of this waterbody, tributaries of which would

Waterbody Name (WFD Waterbody ID)	Hydrological Relationship to the Project
	receive drainage discharges. During construction there would also be temporary construction compounds in the catchment that would drain to tributaries.
Mardyke (East Tributary) (GB106037028070)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment (pylons over 500 m from the WFD waterbody itself). Access roads (permanent and temporary) would be located in the catchment of this waterbody. During construction there would also be temporary construction compounds in the catchment.
Section H	
Mardyke (GB106037028200)	This waterbody is not crossed by any of the Project activities, but pylons would be located within its catchment (pylons over 3 km from the WFD waterbody itself). Access roads (permanent and temporary) would be located in the catchment of this waterbody.

NB: the distances quoted are based the Project alignment shown on ES Figure 4.1: Proposed Project Design (document reference 6.4.F1). Section 4.4 addresses the flexibility provided by defined Limits of Deviation (LoD) for permanent elements of the Project.
NB: haul roads are proposed to be constructed typically within the underground cable corridor and would have a typical width of 8 m and adjacent to the overhead line, with a typical width of 6 m, increasing to 8 m in passing places.

3.1.9 Soffit heights at temporary single span crossings would be set on a site-specific basis, following more detailed survey and design work by the Main Works Contractor(s). On waterbodies that currently achieve WFD class Good or High for invertebrates, namely the River Tas, River Gipping, River Wid, River Chelmer, River Brain, River Blackwater, the Spring Brook, the Roman River and the Wattisham Watercourse, soffit heights would be set as high as practicable above the Q95 water level (indicative of a summer, low flow condition), accounting for site-specific constraints, in order to facilitate the upstream migration of invertebrate species and avoid deterioration in the biological quality element.

3.1.10 As detailed in the crossing schedules provided within ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2), some of the other watercourses (i.e. not designated as WFD waterbodies) within the ZoI would be crossed by the underground cable trenches using open cut techniques. In addition, a number of these minor watercourses would also be temporarily culverted during construction of the temporary access routes. Typical cross section plans for temporary bridge and access culvert crossings are provided in Appendix D. These assumptions form the basis of the assessment.

3.1.11 Although they are not designated WFD waterbodies, these watercourses drain to the WFD waterbodies that have been screened into the assessment. The Project could have temporary effects on these other watercourses, and these are considered cumulatively within the assessment of the WFD waterbodies. This is a precedented approach for assessing effects on non-designated waterbodies and the assessment is reported in Section 4.

Transitional Waterbodies Screening

3.1.12 There are two transitional WFD waterbodies within the ZoI: Stour (Essex) (ID: GB520503613602) and Thames Middle (ID: GB530603911402).

3.1.13 Project activities in the catchment of the Stour (Essex) transitional waterbody are limited to construction of six pylons and associated construction access routes. These activities would be remote from the WFD waterbody itself. No discharges/outfalls are proposed to this waterbody. Therefore, the Stour (Essex) transitional waterbody has been screened out given there is a low risk of impact using the source-pathway-receptor approach.

3.1.14 Project activities are relatively more extensive within the catchment of the Thames Middle waterbody and include:

- Construction of the new overhead line
- Removal of some parts of the existing overhead line
- Drainage outfalls to the ordinary watercourses within the waterbody catchment during construction
- Several temporary construction compounds/laydown areas would be located in the waterbody catchment during construction
- There would be permanent and temporary access roads within the waterbody catchment.

3.1.15 Although the Project activities would be remote from the Thames Middle WFD waterbody (over 2 km) there are pathways for impacts on the quality elements of the waterbody applying the source-pathway-receptor approach. As such the Thames Middle transitional waterbody is screened in.

Protected Areas

3.1.16 Two protected areas within the ZoI have been identified that have a known or potential surface or groundwater dependency. Details of these sites are provided in Table 3.3. There are no Special Protection Areas, Special Areas of Conservation or Ramsar sites within the ZoI.

Table 3.3 Summary of protected areas within the ZoI

Site Name	Designation	Citation Relevance	Hydrological Connection / Comments
Roydon Fen Local Nature Reserve	Local Nature Reserve	A valley fen, Roydon is wet most of the time with the spring-fed, deep peat soils permanently water-logged.	Hydrologically connected, located within 20 m of the Order Limits.
Wortham Ling Site of Special Scientific Interest	Site of Special Scientific Interest	Wortham Ling is important for its lowland dry heath and acid grassland communities which have developed on a sandy, glaciofluvial drift deposit. Although the site is isolated from the Brecklands, lying as it does within a predominantly boulder clay area, the vegetation has close similarities with the Breck grass-heaths.	Likely to be hydrologically connected but may not affect its integrity/ be relevant to its designation. Screened in on a precautionary basis due to the proximity to the Order Limits (approximately 30 m).

Groundwater Bodies Screening

3.1.17 The groundwater bodies within the ZoI are listed below with their WFD waterbody ID:

- Broadland Rivers Chalk and Crag (GB40501G400300)
- Waveney and East Suffolk Chalk and Crag (GB40501G400600)
- Essex North Chalk (GB40501G400700)
- Essex Gravels (GB40503G000400)
- South Essex Lower London Tertiaries (GB40602G401000)

3.1.18 Permanent infrastructure in the form of underground cabling would be located within the following WFD groundwater bodies: Essex North Chalk, Essex Gravels and Essex South Thurrock Chalk, with drilling for trenchless crossings taking place within the Essex Gravels waterbody.

3.1.19 Permanent infrastructure in the form of CSE compounds and substations would be located within the Broadland Rivers Chalk and Crag, Waveney and Suffolk East Chalk, Essex Gravels and Essex North Chalk waterbodies.

3.1.20 During construction, haul roads would be in place in all of the groundwater bodies within the ZoI.

3.1.21 In line with feedback provided by the Environment Agency, all of the groundwater bodies within the ZoI have been screened in.

3.1.22 Potential for effects on groundwater quality and flows is assessed in ES Chapter 9: Contaminated Land, Geology and Hydrogeology (document reference 6.9).

GWDTEs

3.1.23 Table 3.4 provides a summary of the sites that support Groundwater Dependent Terrestrial Ecosystems (GWDTEs), share a hydrological link to waterbodies within the ZoI and are situated downstream of Project activities. The sites include Sites of Special Scientific Interest, Local Wildlife Sites and County Wildlife Sites.

Table 3.4 Summary of GWDTEs with hydrological linkage to the Project

Project Section	Site Name	GWDTE	Location in Relation to Project
A	Brock's Watering	Wet grassland and stream	0.4 km downstream of location where overhead line and haul road crosses the watercourse which feeds this County Wildlife Site.
C	Higham Meadow	Wet meadow and stream	The Project's Sustainable Drainage System (SuDS) outfalls into a watercourse at Higham Meadow.
C	Cattawade Marshes	Grazing marsh	Underground cable crosses the two branches of the River Stour within the Site of Special Scientific Interest.
C	Black Brook	Wet woodland	The east section of this Local Wildlife Site is 0.2 km downstream of location where underground cable and haul road crosses the Black Brook. Temporary sustainable drainage infrastructure would outfall to the Black Brook.
D	Marks Tey Brick Pit	Wet woodland, marsh, open water habitats	0.4 km downstream of location where haul road and overhead line crosses the Roman River which feeds the site.
F	Border Wood Lake	Lake and wet woodland	0.3 km downstream connecting the Local Wildlife Site to where the overhead line passes.
F	Little Waltham Village Meadows	Floodplain Grazing Marsh	0.5 km downstream of location where overhead line crosses the River Chelmer which feeds the site.

3.1.24 These sites, supporting GWDTEs were screened into the assessment.

3.2 Stage 2: Collating Baseline Data

3.2.1 Baseline data were collated to characterise the waterbodies that were screened in at Stage 1. An overview of these data is provided below in Table 3.5, including current WFD status, specific objectives and a summary of any mitigation measures in place or planned. Additional information is provided in Appendix E.

3.2.2 The information has been collected from the Anglian RBMP (Environment Agency, 2018a), Thames RBMP (Environment Agency, 2018b) and the Environment Agency's Catchment Data Explorer website, Cycle 3 (2022 to 2027) data (Environment Agency, 2023a). Data have also been obtained from a desk study undertaken in January 2024, to identify the baseline ecological conditions for the watercourses potentially impacted by the Project and key biological receptors (macrophyte, macroinvertebrate and fish) at risk of being affected by the Project.

3.2.3 The desk study (reported in ES Appendix 8.4: Aquatic Report (document reference 6.8.A4)) identified the need for fish surveys in watercourses where baseline data were lacking and where impacts to fish had the potential to be significant, mainly because of open cut cable installation. A total of 24 watercourses, located in seven different WFD surface waterbody catchments, were surveyed in September 2024. Fish habitat suitability assessments and environmental DNA sampling (to detect genetic material from organisms in their surroundings) were undertaken to establish the likely presence of sensitive/protected fish species and to determine the potential of fish habitats to support protected and migratory species. The survey results are fully reported in ES Appendix 8.4: Aquatic Report (document reference 6.8.A4) and have been used to inform this Stage 4 assessment.

3.2.4 In addition, data were collected from more general and widespread walkover surveys when a photographic record and field notes of baseline conditions were recorded. These data are included in Appendix E.

3.2.5 There is one artificial waterbody that has been screened into the assessment: Ardleigh Reservoir. The main outflow of this reservoir is Salary Brook. The reservoir supplies water to Anglian Water and to Affinity Water and is also used for recreational activities.

Table 3.5 Baseline status for screened in WFD (surface) waterbodies

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019/2022* Waterbody Classification
Section A		
Tas (Tasburgh to R. Yare) (GB105034051230)	Broadland Rivers	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Tributary of Tas (GB105034050950)	Broadland Rivers	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Tas (Head to Tasburgh) (GB105034045730)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Frenze Beck (GB105034045840)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Waveney (u/s Frenze Beck) (GB105034045820)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019/2022* Waterbody Classification
Section B		
Tributary of Upper Waveney (GB105034045750)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Little Ouse (US Thelnetham) (GB105033043060)	Cam and Ely Ouse	Hydromorphological designation: Heavily modified Ecological: Bad Chemical: Fail
Dove trib – Finningham (GB105034045660)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Mendlesham Stream (GB105034045650)	Broadland Rivers	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Gipping (u/s Stowmarket) (GB105035046180)	Suffolk East	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Gipping (d/s Stowmarket) (GB105035046280)	Suffolk East	Hydromorphological designation: Heavily modified Ecological: Poor Chemical: Fail
Wattisham Watercourse (GB105035040350)	Suffolk East	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Somersham Watercourse (GB105035040310)	Suffolk East	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Belstead Brook (GB105035040440)	Suffolk East	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019/2022* Waterbody Classification
Section C		
Stutton Brook (GB105036040890)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail
River Brett (GB105036040930)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Stour (d/s R. Brett) (GB105036041000)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Stour (Lamarsh - R. Brett) (GB105036040942)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Salary Brook (GB105037041320)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Ardleigh Reservoir (GB30539944)	Essex Combined	Hydromorphological designation: Artificial Ecological: Moderate Chemical: Fail
Tenpenny Brook (GB105037041310)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Holland Brook (GB105037077810)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Section D		
Colne (d/s Doe's Corner) (GB105037041330)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Roman River (GB105037034150)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019/2022* Waterbody Classification
Section E		
Blackwater (Combined Essex) (GB105037041160)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Brain (GB105037041140)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Ter (GB105037033940)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Section F		
Chelmer (Gt Easton - R. Can) (GB105037033950)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Chignall Brook (GB105037033650)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
River Can (GB105037033840)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail
Roxwell Brook (GB105037033540)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail
Wid (Margaretting Hall - R. Can) (GB105037033900)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail
Wid (Ingatestone Hall - Margaretting Hall) (GB105037028690)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Wid (Shenfield STW - Ingatestone Hall) (GB105037028670)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019/2022* Waterbody Classification
Section G		
Wid (Doddinghurst Brook - Shenfield STW) (GB105037028680)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Poor Chemical: Fail
Haverings Grove Brook (GB105037028650)	Essex Combined	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Crouch (Upper) - u/s A129 (GB105037028500)	Essex Combined	Hydromorphological designation: Not designated artificial or heavily modified Ecological: Moderate Chemical: Fail
Mardyke (East Tributary) (GB106037028070)	Essex South	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Section H		
Mardyke (GB106037028200)	Essex South	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail
Thames Middle (GB530603911402)	Thames transitional and coastal (TraC)	Hydromorphological designation: Heavily modified Ecological: Moderate Chemical: Fail

**Ecological 2022, chemical 2019*

3.2.6 Reasons for not achieving Good status (RNAGs) are reported for the WFD waterbodies that have been screened into the assessment in Appendix E. There are multiple RNAGs reported for these waterbodies with common ones being polybrominated diphenyl ethers[4] (PBDE) and excess phosphate from point (sewage discharge) and diffuse (poor agricultural and soil management) sources. Other common RNAGs include physical modifications, mercury and its compounds and low dissolved oxygen.

3.2.7 The status objectives for the WFD waterbodies are also reported in Appendix E. For many of these waterbodies, the reason for not achieving the 2015 target for ecological status is '*disproportionately expensive: unfavourable balance of costs and benefits*' (Environment Agency, 2023a). For the chemical status objective for all of these waterbodies, a 2063 target year is assigned with the reason given as '*natural conditions: chemical status recovery time*' (Environment Agency, 2023a).

[4] Used in the manufacture of a wide range of products, including plastics. They are persistent and bio-accumulative and have potential for long range transport.

Aquatic Ecology

3.2.8 As part of an aquatic ecology study undertaken to inform ES Chapter 8: Ecology and Biodiversity (document reference 6.8) that is reported in ES Appendix 8.4: Aquatic Report (document reference 6.8.A.4), the presence/likely absence of protected/notable aquatic species was identified for the watercourses potentially impacted by the Project, including for those WFD waterbodies screened in to this assessment.

3.2.9 Notable fish species were identified in the following catchments: Belstead Brook, River Blackwater, Brain, Brett, Can, Chelmer, Colne and Gipping, Haverings Grove Brook, Roman River, Roxwell Brook, Salary Brook, River Stour, Stutton Brook, River Tas, Ter and Wid. The notable fish species included brown trout, brook lamprey, bullhead, European eel and spined loach. Different combinations of these species were identified in different catchments, with some catchments only having one notable species identified. The Blackwater, Chelmer, Can, and Wid all currently achieve Good or High status for fish.

3.2.10 Notable invertebrate species were identified in the following catchments: River Blackwater, Brain, Brett, Can, Chelmer, Chignall Brook, River Colne, Crouch, Frenze Beck, River Gipping, Haverings Grove Brook, Mardyke, Roman River, Roxwell Brook, Salary Brook, River Stour, Stutton Brook, River Tas, Ter, Tributary of Upper Waveney, River Waveney and Wid. The notable invertebrate species range from gastropod molluscs (snails) to crayfish to dragonflies. Several of the invertebrate species are Invasive Non-Native Species (INNS).

3.2.11 Notable macrophyte species were identified in the following catchments: River Brett, Can, Gipping, Frenze Beck, Roxwell Brook, River Stour and Wid. The notable macrophyte species included Himalayan balsam, American / Western waterweed and Sweet Cyperus. With the exception of Sweet Cyperus, all of these are INNS.

National Measures

3.2.12 RBMPs contain a summary of the programmes of measures needed to achieve the environmental objectives in the river basin district. There are some measures which are applicable to all river basin districts and a high level summary of these is provided here.

3.2.13 There are national measures that focus on improving water quality including the Water and Abandoned Metal Mines programme and National Highways funds. There are also measures focusing on the sustainability of water resources and flood risk management. Catchment level government funded measures include the Water Environment Investment Fund and the Environment Agency's Water Industry National Environment Programme (WINEP). Details of specific local measures on a management catchment level are below.

Broadland Rivers Management Catchment Measures

3.2.14 Eight of the screened in WFD waterbodies are in the Broadland Rivers management catchment. All catchment specific measures for this management catchment are within the Bure operational catchment which lies outside of the ZoI of the Project, defined in Section 3.1. The national measures previously described are still applicable.

Cam and Ely Ouse Catchment Measures

3.2.15 The Little Ouse (US Thelnetham) WFD waterbody is in the Cam and Ely Ouse management catchment. A set of measures have been identified as part of the Brecks, Fen Edge and Rivers Project (funded by the Water Environmental Investment Fund) which aim to deliver benefits to fish passage and habitats and manage invasive species, water quality and water quantity in the Lark and Little Ouse rivers. These measures are applicable to the operational catchment the Little Ouse (US Thelnetham) WFD waterbody is within (Little Ouse and Thet) and therefore the WFD waterbody itself.

Suffolk East Management Catchment Measures

3.2.16 Five of the screened in WFD waterbodies are in the Suffolk East management catchment. There are no specific measures for this management catchment further to the previously described measures that are applicable to all catchments.

Essex Combined and Essex South Management Catchment Measures

3.2.17 23 of the screened in WFD waterbodies are in the Essex Combined management catchment and two of the screened in waterbodies are in the Essex South management catchment. A set of measures have been identified to deliver improvements to water quality and remove physical barriers to fish passage within waterbodies. These centre around improving fish passage from sea to source through the catchment. This is all through the Essex Fish Migration Road Map via the Water Environment Investment Fund.

Thames TraC Management Catchment Measures

3.2.18 The Thames Middle transitional WFD waterbody is in the Thames TraC management catchment. There is one measure in the Thames RBMP specific to the Thames TraC management catchment which is focused on working with natural processes to restore the floodplain and engage with local communities, landowners and businesses. However, this is attributed to the Thames Upper WFD waterbody (which has not been screened into this assessment and is therefore not considered further) rather than the Thames Middle WFD waterbody.

Other Watercourses

3.2.19 The watercourses without a WFD designation that would be crossed by the Project are varied, with many being drainage ditches that serve a land drainage function and others being larger watercourses forming significant tributaries of WFD waterbodies. An example of the latter is Spring Brook in Section C which is a tributary of the Belstead Brook.

3.2.20 Some of these watercourses have been observed during the site surveys described in Paragraph 3.2.3 and are described in Appendix E. Many are expected not to support year round flow and of those surveyed, several were dry (further details are provided in ES Appendix 8.4: Aquatic Report (document reference 6.8.A4)).

Waveney and Little Ouse Recovery Project

3.2.21 The Waveney and Little Ouse Recovery (WaLOR) project (Suffolk Wildlife Trust, 2022) covers over 1,600 hectares (ha) of land between the towns of Diss on the Waveney and Thetford on the Little Ouse, including land within the ZoI for the Project.

3.2.22 The WaLOR aims to improve habitats, reconnect watercourses with their floodplains and engage with communities to improve awareness of the importance of landscape recovery and biodiversity conservation.

3.2.23 Consultation has been ongoing with the Suffolk Wildlife Trust regarding the WaLOR and potential interactions with Project. Based on this consultation and information provided by the Trust, it is understood that the WaLOR would take place within the catchments of the following screened in WFD waterbodies: Waveney (u/s Frenze Beck) and Tributary of Upper Waveney.

3.2.24 From a WFD perspective, the WaLOR has the potential to influence some of the quality elements of these waterbodies in the future, being likely to contribute towards achieving some of the previously described measures documented in the RBMPs.

3.2.25 Further information on the interactions between the Project and the WaLOR and associated assessments of effects are included in ES Chapter 8: Ecology and Biodiversity (document reference 6.8) and ES Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12).

Water Industry National Environment Programme (WINEP) Projects

3.2.26 The Environment Agency shared details of WINEP based projects that are proposed within the catchments of WFD waterbodies which are within the ZoI of the Norwich to Tilbury Project. This information has been reviewed to assess the potential for conflicts. In Sections A and B river restoration/wetland creation is proposed in the Waveney (u/s Frenze Beck), Little Ouse (US Thelnetham) and Gipping (d/s Stowmarket) waterbody catchments. In these waterbody catchments new overhead line is proposed and there would be negligible risk of conflicts as Project activities would be relatively remote from the waterbodies.

3.2.27 In Section C, river restoration and works to improve fish passage are proposed in the River Brett and Stour (d/s R. Brett) waterbodies. These waterbodies flow through land within the Order Limits but there would be limited Project interactions with them, for example, discharges of treated surface water runoff. No potential for conflict with the WINEP proposals have therefore been identified.

3.2.28 The remaining two WINEP projects are in the Roman River and Blackwater (Combined Essex) waterbody catchments, where river restoration and improvements to fish passage are also proposed. The Project proposes one temporary crossing of the Roman River; however, this crossing would be via an open span bridge, posing no impediment to fish passage. The nearest pylon would be approximately 170 m from the WFD waterbody. The Project also proposed an open span temporary crossing of the Blackwater, and the nearest pylon would be approximately 120 m from the waterbody.

3.2.29 It is therefore concluded that the Project would not constrain or conflict with any WINEP proposals.

Groundwater Bodies

3.2.30 Baseline data for the screened in groundwater bodies are summarised in Table 3.6.

Table 3.6 Baseline status for screened in WFD groundwater bodies

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019 Waterbody Classification
Broadland Rivers Chalk & Crag (GB40501G400300)	Anglian GW	Surface Area: 3,075.94 km2 Overall: Poor Quantitative: Poor Quantitative GWDTEs Test: Poor Quantitative Water Balance: Good Chemical (GW): Poor Chemical Drinking Water Protected Area: Poor Chemical GWDTEs Test: Good General Chemical Test: Good Prevent and Limit Objective: Active Trend Assessment: Upward trend
Waveney and East Suffolk Chalk & Crag (GB40501G400600)	Anglian GW	Surface Area: 1,454.91 km2 Overall: Poor Quantitative: Poor Quantitative GWDTEs Test: Good Quantitative Water Balance: Good Chemical (GW): Poor Chemical Drinking Water Protected Area: Poor Chemical GWDTEs Test: Good General Chemical Test: Poor Prevent and Limit Objective: Active Trend Assessment: Upward trend
Essex North Chalk (GB40501G400700)	Anglian GW	Surface Area: 706.77 km2 Overall: Poor Quantitative: Poor Quantitative GWDTEs Test: Good Quantitative Water Balance: Poor Chemical (GW): Poor Chemical Drinking Water Protected Area: Poor Chemical GWDTEs Test: Good General Chemical Test: Good Prevent and Limit Objective: Active Trend Assessment: Upward trend

Waterbody Name (WFD Waterbody ID)	Management Catchment	2019 Waterbody Classification
Essex Gravels (GB40503G000400)	Anglian GW	Surface Area: 1,274.64 km2 Overall: Poor Quantitative: Good Quantitative GWDTEs Test: Good Quantitative Water Balance: Good Chemical (GW): Poor Chemical Drinking Water Protected Area: Good Chemical GWDTEs Test: Good General Chemical Test: Poor Prevent and Limit Objective: Active Trend Assessment: No trend
South Essex Lower London Tertiaries (GB40602G401000)	Thames GW	Surface Area: 7.57 km2 Overall: Good Quantitative: Good Quantitative GWDTEs Test: Good Quantitative Water Balance: Good Chemical (GW): Good Chemical Drinking Water Protected Area: Good Chemical GWDTEs Test: Good General Chemical Test: Good Prevent and Limit Objective: Active Trend Assessment: No trend

3.2.31 An RNAG common to all of the screened in waterbodies within the Anglian GW management catchment is Chemical Drinking Water Protected Area (attributed to suspect data for Broadland Rivers Chalk & Crag and poor nutrient/livestock management for the rest). Many of the RNAGs are related to agriculture and land management and include abstraction.

3.2.32 The South Essex Lower London Tertiaries waterbody does not have any RNAGs and has met its objectives (2015).

3.2.33 The Broadland Rivers Chalk & Crag waterbody has an overall status target of Good by 2027 although there is low confidence in this, with the reason assigned as '*disproportionately expensive: disproportionate burdens*'. For the other screened in waterbodies in the Anglian GW management catchment, the reasons for the 2015 targets of Poor are '*disproportionately expensive: disproportionate burdens; disproportionately expensive: unfavourable balance of costs and benefits*'.

3.3 Stage 3: Screening Project Components and Activities

3.3.1 Stage 3 of the assessment identified relationships between the components of the Project and screened in WFD waterbodies. Any components and activities with the potential to influence the screened in waterbodies were screened in for further assessment. This stage of the assessment was shared with the Environment Agency and its conclusions agreed.

3.3.2 As detailed in ES Chapter 3: Alternatives (document reference 6.3), the Project has sought to avoid environmental constraints, such as areas supporting valuable habitats and designated sites, as well as larger residential communities. The route corridor and alignments were selected based on balancing the technical, environmental, and economic constraints. The Project also includes embedded measures, such as undergrounding in areas of high landscape value and trenchless crossings of the River Stour.

Watercourse Crossings

3.3.3 The Project requires the crossing of multiple ditches, drains, ordinary watercourses and main rivers for temporary and permanent access, as well as for installation of the underground cable sections of the Project. Proposed overhead lines would oversail watercourses and their riparian corridors.

3.3.4 A review has been undertaken to identify areas of the Project where works in, under and across watercourses would be required. This includes trenchless cable installation, open cut cable installation, culverts and open-span bridges to facilitate construction access. Details of specific watercourse crossings are identified within ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2) and drawings showing typical details of crossings have been included in Appendix D. As these activities are classified as 'red' or 'amber' according to WFD risk screening thresholds for rivers (Environment Agency, 2016), all watercourse crossings in cable sections and for access were screened in for further assessment at Stage 4.

Project Components Summary

3.3.5 Table 3.7 provides a summary of the remainder of the main elements of the Project for the eight sections. The areas, lengths and numbers provided are indicative.

Table 3.7 Summary of Project components

Project Section	Works Description	Principal Permanent Project Infrastructure
A	Construction of overhead line in a south-westerly direction between the Norwich Main Substation and Diss. The Order Limits are located primarily within arable land and oversail watercourses, including the River Waveney. Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	Circa 89 pylons and 29 km overhead line
B	Works at existing Bramford Substation – extension of existing substation. Construction of overhead line in a general southerly direction from Wortham Ling to Bramford Substation. The Order Limits pass through mainly arable land, oversailing watercourses including the River Gipping (twice) and The Channel.	Works at existing Bramford Substation Circa 123 pylons and 39 km overhead line

Project Section	Works Description	Principal Permanent Project Infrastructure
	Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	
C	Construction of overhead line in a predominantly southerly direction from Bramford Substation. The Order Limits pass through mainly arable land, oversailing numerous watercourses including Spring Brook. In the southern part of the section, following the transition from underground cable to overhead line, the Order Limits run west and cross part of the Ardleigh Reservoir. Construction of underground cable and CSE compound. The route for the underground cable crosses the River Stour and Black Brook. Construction of the new EACN Substation at Hungerdown Lane. Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	One CSE compound Circa 16 km underground cable Circa 44 pylons and 13 km overhead line New EACN Substation (operational footprint approx. 12 ha)
D	Construction of an overhead line in a general westerly, then south-westerly direction around Colchester. The Order Limits run primarily through arable land with the new overhead line oversailing watercourses including the River Colne and Roman River. Construction of underground cable and associated CSE compounds at each end of underground section. Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	Circa 47 pylons and 15 km overhead line Two CSE compounds Approximately 4 km underground cable
E	Construction of overhead line in a general south-westerly direction. The Order Limits run through mostly rural landscape, including arable land, parkland and woodlands. The new overhead line would oversail numerous watercourses including the River Blackwater and River Brain. Construction of a short section of underground cable and associated CSE compounds where the Order Limits cross the existing Braintree-Pelham-Rayleigh 400 kV overhead line.	Two CSE compounds (associated with underground cable to cross existing overhead line) 150 m underground cable Circa 51 pylons and 16 km overhead line

Project Section	Works Description	Principal Permanent Project Infrastructure
	Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	
F	Construction of overhead line in a south-westerly direction through rural land, including woodland, arable fields and parkland. The overhead line would oversail multiple watercourses including the River Ter, River Can, River Chelmer, Roxwell Brook, Sandy Brook and Stock Brook. Access and haul roads will be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	Circa 61 pylons and 21 km overhead line
G	Construction of overhead line in a southerly direction through rural land, including arable, oversailing the River Wid in several locations, as well as Haverings Grove Brook, in two locations. Access and haul roads will be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	Circa 45 pylons and 14 km overhead line
H	Construction of overhead line across arable fields in a southerly direction, oversailing several watercourses including the River Mardyke. Construction of pylons and overhead line and modifications to existing transmission infrastructure, including two CSE compounds south of the proposed Lower Thames Crossing project. Construction of new Tilbury North Substation to the south of Orsett Golf Course. Access and haul roads would be created, necessitating watercourse crossings and outfalls from drainage features constructed to manage surface water runoff from new areas of impermeable land cover.	Up to two CSE compounds Circa 70 pylons and 18 km overhead line New Tilbury North Substation (operational footprint approx. 11 ha)

3.3.6 Temporary construction compounds would be established including the following types:

- Main works compounds
- Satellite compounds
- Primary/secondary/tertiary cable compounds
- Compounds to support construction of substations and CSE compounds, which facilitate transitions between overhead line and underground cables.

3.3.7 There would be a total of 26 temporary construction compounds with two in Section A, three in Section B, six in Section C, five in Section D, two in Section E, two in Section F, one in Section G and five in Section H. In addition, there would be compounds positioned within the working areas for the 132 kV mitigation works and highway mitigation compounds (13 proposed) to facilitate the construction of the highway mitigation works, for example, road widening and passing places.

3.3.8 The haul roads would be typically 8 m wide to allow for a two-way running track for construction vehicles for underground cables and 6 m wide (and 8 m wide for passing places_ for the overhead line. The typical cross section of the haul roads would be 21 m wide, to allow for topsoil and subsoil storage, drainage, and demarcation fencing.

Components with the Potential to Affect WFD Waterbodies

Screened Out Components

3.3.9 Any activities which cause short-term change, that is, that impact a waterbody for a short period of time, enabling its quick recovery without the need for restoration measures, are not considered to cause deterioration as defined in the WFD. For the purpose of this assessment, ‘short term’ has been assumed as two years or less, which is in line with other large infrastructure projects.

3.3.10 The following short-term activities have therefore been screened out:

- Utility diversions meeting the criteria above regarding timescales of ground disturbance and waterbody recovery
- Landscaping and habitat creation.

3.3.11 Impacts from operational road drainage from permanent access roads have also been screened out. This is on the basis that these roads would be infrequently trafficked and only used for periodic maintenance visits. Some of the permanent access roads would be rights of way along existing tracks and would not involve construction of a formal road surface. Similarly, drainage from and usage of Primary Access Routes are screened out. These are established existing transport routes served by existing drainage systems to which only minor improvements would be undertaken by the Project.

3.3.12 Overhead line crossings of watercourses are screened out of further assessment based on there being no direct effect on waterbodies and their riparian corridors, based on the commitment to maintaining minimum buffer zones (described in Section 4).

Screened in Components

3.3.13 Table 3.8 details the components of the Project that have been screened in and their relationship to the screened in river waterbodies where relevant. It also provides this information for the transitional waterbody screened into the assessment.

3.3.14 Protected areas with a hydrological (surface water) link to the Project, and GWDTEs within the ZoI have also been considered in Table 3.8. There are two routes for Project components to impact on protected areas and GWDTEs: through direct physical impacts and through changes to the conditions they rely on (for example, through changes in flow or water quality).

3.3.15 Current proposed watercourse crossing locations based on the Proposed Alignment are shown on ES Figure 4.1: Proposed Project Design (document reference 6.4.F1), with details of these provided within ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2). Project activities that are not considered to have the potential to cause waterbody deterioration or prevent implementation of any planned measures, are screened out at this stage. The assessment has been informed by the water environment impact assessment presented in ES Chapter 12: Hydrology, Land Drainage and Flood Risk (document reference 6.12) and ES Chapter 9: Contaminated Land, Geology and Hydrogeology (document reference 6.9).

3.3.16 The screened in activities from Table 3.2 have been taken forward for further assessment at Stage 4, details of which are included in Section 4 of this report.

Table 3.8 Potential impacts of Project components on WFD surface waterbodies and protected areas

Component	WFD Waterbody / Protected Area	WFD Element Affected
General construction (including use of haul roads, temporary construction compounds and laydown areas)	All waterbodies* that fall within the Order Limits, and have been screened into the assessment at assessment Stage 1 (see Appendix A) Protected areas with a hydrological link to affected waterbodies within the ZoI	Risks of generation of silted or otherwise polluted runoff from work sites, and at compounds and laydown areas, spills of oils, hydrocarbons and generation of other construction wastes, causing pollution. Roads intersect with surface water flow paths and cross watercourses, inducing potential physical or hydrological change. Increase in paved (impermeable) land cover, changing rainfall runoff patterns and the rates and volumes of runoff received by watercourses and catchments. **Biological quality elements** **Physio-chemical** **Hydromorphology**
Construction waste handling/ treatment	All waterbodies* that fall within the Order Limits, and have been screened into the assessment, as outlined in Appendix A Protected areas with a hydrological link to affected waterbodies	Discharge of potentially polluting materials/ effluents degrading receiving water quality. **Biological quality elements** **Physio-chemical**
Watercourse crossing – culverting	All watercourses crossed by the access or haul roads which are listed in ES Appendix 4.2: Watercourse Crossing Details (document reference 6.4.A2) Protected areas with a hydrological link to affected waterbodies	Potential to disturb channel bed / bank forms, alter lateral connectivity with floodplains, change flow dynamics / hydraulics and sediment transport processes (erosion and accretion). Creation of barriers to fish and mammal passage and habitat loss. **Biological quality elements** **Hydromorphology**

Component	WFD Waterbody / Protected Area	WFD Element Affected
Watercourse crossing – structures spanning watercourses (new open-span bridges)	Tributary of the Waveney River Waveney River Gipping The Channel/Somersham Watercourse Belstead Brook Spring Brook Roman River River Blackwater River Brain River Ter River Can River Wid Stock Brook River Wid tributaries A pond and three unnamed watercourses Protected areas with a hydrological link to affected waterbodies	Potential additional shading of watercourses leading to loss or degradation of habitats / sensitive vegetation. **Biological quality elements**
Drilling for trenchless crossings	River Stour Protected areas with a hydrological link to affected waterbodies	Opening of pollution pathways, potential for outbreaks of drilling muds, including bentonite[5]. **Biological quality elements** **Physio-chemical**
Dewatering of excavations for underground cable installation	Surface waterbodies* with underground cabling in close proximity/ in their catchments: Stutton Brook River Brett River Stour (d/s R. Brett, Lamarsh – R. Brett) Salary Brook Tenpenny Brook River Colne River Ter	Mobilisation of ground contaminants from their source (e.g. historical or active landfills), their transport and delivery to aquatic systems. Change to groundwater levels/flows supporting baseflow to watercourses and protected areas. **Physio-chemical** **Specific pollutants** **Biological quality elements**

[5] Bentonite is a swelling clay that has the ability to absorb large quantities of water, a property used to advantage in drilling mud and groundwater sealants.

Component	WFD Waterbody / Protected Area	WFD Element Affected
	Protected areas with a hydrological link to affected waterbodies	
Dewatering of excavations for foundations (e.g. pylons)	All waterbodies* that fall within the Order Limits, and have been screened into the assessment, as outlined in Appendix A. Protected areas with a hydrological link to affected waterbodies	
Permanent infrastructure within the Project boundary (pylons, CSE compounds and substations)	Surface waterbodies* with permanent infrastructure in close proximity/ in their catchments: River Tas River Gipping Belstead Brook Stutton brook Tenpenny Brook River Colne River Ter Protected areas with a hydrological link to affected waterbodies	Increase in paved (impermeable) land cover, changing rainfall runoff patterns and the rates and volumes of runoff received by watercourses causing change to flow regimes. N. B. Buffer zones between waterbodies and pylons have been maintained to avoid physical impacts on riparian zones. **Hydromorphology**

**Includes tributaries draining to WFD waterbodies*

Table 3.9 Potential impacts of Project components on WFD transitional waterbodies

Component	WFD Waterbody / Protected Area	WFD Element Affected
General construction (including use of haul roads, compounds and laydown areas)	Thames Middle (and tributaries draining to the Thames Middle)	Risks of generation of silted or otherwise polluted runoff from work sites, and at compounds and laydown areas, spills of oils, hydrocarbons and generation of other construction wastes, causing pollution. Roads intercepting surface water flow paths and crossing watercourses, inducing physical or hydrological change. Increase in paved (impermeable) land cover, changing rainfall runoff patterns and the rates and volumes of runoff received by watercourses and catchments. **Biological quality elements** **Physio-chemical** **Hydromorphology**

Component	WFD Waterbody / Protected Area	WFD Element Affected
Construction waste handling/ treatment	Thames Middle (and tributaries draining to the Thames Middle)	Discharge of potentially polluting materials/ effluents degrading receiving water quality. **Biological quality elements** **Physio-chemical**
Watercourse crossing – culverting	Ordinary watercourses draining to the Thames Middle waterbody	Potential to disturb channel bed/ bank forms, alter lateral connectivity with floodplains, change flow dynamics/ hydraulics and sediment transport processes (erosion and accretion). Creation of barriers to fish and mammal passage and habitat loss. **Biological quality elements** **Hydromorphology**
Dewatering of excavations (for underground cable and foundations)	Thames Middle (and tributaries draining to the Thames Middle)	Mobilisation of ground contaminants from their source (e.g. historical or active landfills), their transport and delivery to aquatic systems. Change to groundwater levels/flows supporting baseflow to watercourses and protected areas. **Physio-chemical** **Specific pollutants** **Biological quality elements**
Permanent infrastructure within the Project boundary (pylons, CSE compounds and substations)	Thames Middle (and tributaries draining to the Thames Middle)	Increase in paved (impermeable) land cover, changing rainfall runoff patterns and the rates and volumes of runoff received by watercourses causing change to flow regimes. Buffer zones between waterbodies and pylons have been maintained to avoid physical impacts on riparian zones. **Hydromorphology**

3.3.17 Table 3.10 presents a summary of those components that are considered to have potential to affect one or more of the classification elements of the WFD groundwater bodies within the ZoI, so are screened in for assessment at Stage 4.

3.3.18 As with surface waterbodies, protected areas have also been considered for groundwater. These are protected areas that have a groundwater dependency (GWDTEs).

Table 3.10 Potential impacts of Project components on WFD groundwater bodies and protected areas

Component	WFD Waterbody / Protected Area	WFD Element Affected
General construction (including use of haul roads, temporary construction compounds and laydown areas)	Broadland Rivers Chalk & Crag Waveney and East Suffolk Chalk & Crag Essex North Chalk Essex Gravels Essex South Thurrock Chalk South Essex Lower London Tertiaries Associated GWDTEs	Risks of generation of silted or otherwise polluted runoff from work sites, and at compounds and laydown areas, spills of oils, hydrocarbons and generation of other construction wastes, causing pollution. **Chemical status**
Construction waste handling/ treatment	Broadland Rivers Chalk & Crag Waveney and East Suffolk Chalk & Crag Essex North Chalk Essex Gravels Essex South Thurrock Chalk South Essex Lower London Tertiaries Associated GWDTEs	Discharge of potentially polluting materials/effluents degrading receiving water quality. **Chemical status**
Drilling for trenchless crossings	Essex Gravels Associated GWDTEs	Opening of pollution pathways, potential for outbreaks of drilling muds, including bentonite[5]. **Chemical status**
Excavations for underground cable trenches (including dewatering)	Essex North Chalk Essex Gravels Essex South Thurrock Chalk Associated GWDTEs	Lowering of groundwater levels and reduction in groundwater contributions to surface waterbodies, GWDTEs or groundwater abstractions. Saline intrusion. Disturbing or mobilising existing poor-quality groundwater or ground contaminants from their soil source. **Quantitative status** **Chemical status**

Component	WFD Waterbody / Protected Area	WFD Element Affected
Permanent infrastructure within the Project boundary (pylons, CSE compounds and substations)	Broadland Rivers Chalk and Crag Waveney and Suffolk East Chalk Essex Gravels Essex North Chalk Associated GWDTEs	Increase in paved (impermeable) land cover, changing rainfall runoff and groundwater recharge patterns and quantities. Piling activities to create foundations **Quantitative status** **Chemical status**
Permanent infrastructure within the Project boundary (underground cable)	Essex North Chalk Essex Gravels Essex South Thurrock Chalk Associated GWDTEs	Diversion of groundwater flows, in places reducing groundwater contributions to surface waterbodies, GWDTEs and groundwater abstractions or causing groundwater levels to rise, increasing flood risk. Potentially also opening up pathways for pollution. **Quantitative status** **Chemical status**

4. Stage 4 – WFD Preliminary Assessment

4.1 Approach

4.1.1 For the development activities screened in, an assessment has been undertaken to determine whether the Project is likely to result in failure to meet the WFD objectives comprising:

- Failure to prevent any deterioration in the status of a waterbody
- Failure to achieve good ecological status or good ecological potential
- Preventing implementation of any of the mitigation measures specified in the Anglian and Thames RBMPs (Environment Agency 2018a; 2018b) or detailed on the Environment Agency's (2023a) Catchment Data Explorer website
- Non-compliance or compromised implementation of other legislation.

4.1.2 The assessment has been informed by the results of a desk study, field notes, fish habitat and environmental DNA surveys undertaken from May to October 2024.

4.1.3 The assessment applies a traffic light system (red, amber, green) for screening the potential for risk at a local scale and/or for cumulative effects on the WFD objectives noted in Paragraph 4.2.1 below (Environment Agency, 2016). The traffic lights are assigned under the Environment Agency's system of WFD risk screening for rivers, based on whether an activity can meet Flood Risk Activity Permit exemption conditions (Environment Agency, 2023b). Activities with an amber or red rating require further review as part of a Stage 4 assessment.

4.1.4 The assessment accounts of environmental commitments that are documented in the Outline CoCP (document reference 7.2), which are secured by Requirement 4 of the draft DCO (document reference 3.1).

4.2 Assessment

Traffic Light Classification

4.2.1 Green or low risk activities are described as '*posing a very low risk to the delivery of WFD objectives*'. The guidance (Environment Agency, 2016) notes that no further (additional) WFD risk assessment is required for these activities. Amber activities are described as '*in general, posing a low risk to the delivery of WFD objectives. However, in certain sensitive or critical locations, they could pose a potential risk*'. Red activities '*could pose a risk to the delivery of WFD objectives*'. Amber and red activities require further assessment which considers aspects such as specific designs. This assessment is reported below.

4.2.2 The Project activities screened in at Stage 3 have the following classifications:

- Temporary watercourse bridges for construction access – Amber (set-back embankments over 20 m but under 200 m in length and bridge crossings which are not covered by the Environment Agency's flood defence consenting low risk checklist for service crossings). Note the Project has no bridges that exceed these dimensions.

- Temporary drainage outfalls – Green (where Environment Agency flood defence consenting low risk checklist criteria for small outfalls are met), otherwise Amber. At this stage of design development, it is not conclusive as to whether all outfalls would satisfy the 'Green' low risk criteria, therefore this activity is assigned 'Amber' as a precautionary approach
- Trenchless crossings of the River Stour for cable installations – Amber as crossings would not satisfy the 'Green' low risk criteria seeing as there is potential for impacts on flood flows due to works being located in the floodplain
- Trenched crossings of watercourses for cable installations – Green where works (including cofferdams and/or flow diversions via flumes or over-pumping) are not in place for more than six months and there is no residual impact once the works are complete. Control of fine sediment releases is key to ensuring no residual impacts. The Project cable installation would meet these criteria and a suite of measures for sediment control would be put in place, as documented in commitments W02, W10, GG17, GG22, GG23, GG24 and B03 of the Outline CoCP (document reference 7.2)
- Temporary culverting of watercourses for access – Red (whatever the length or extent)
- Overhead lines oversailing watercourses – Green, satisfying the criteria of service crossings that do not require in-channel structures or supports.

4.2.3 Excavations for cables and foundations are not included in the applied Environment Agency guidance (Environment Agency, 2016) but have been assigned 'amber'. Given the nature of proposed excavations, these activities generally pose a low risk but could pose a risk in some sensitive/ critical locations.

4.2.4 As detailed in Appendix B, National Grid has included a suite of embedded and standard mitigation measures into the Project. These commitments ensure that the activities classified as amber and red in the traffic light system are carried out in accordance with best practice, reducing the risk of detriment to WFD waterbodies.

Failure to Prevent Waterbody Deterioration and Preventing Achieving Good Status

4.2.5 To satisfy the WFD objectives of avoiding deterioration and achieving improved waterbody status, to 'Good', it is necessary to implement specific embedded and standard mitigation measures to reduce the detrimental impacts of the red and amber works activities, such that when considered at the waterbody scale, the residual risk of deterioration is negligible.

Watercourse Crossings

4.2.6 As per commitment W12 in Appendix B, large or sensitive watercourses (for example those designated as main river and those with a WFD waterbody identifier) would be crossed using clear span bridges or suitably assessed and approved alternatives. These crossings would be designed to avoid and reduce impacts on these waterbodies, avoiding any physical change to channel form, flow and sediment transport regimes. The crossings would be designed to reduce effects on riparian corridors and maintain floodplain connectivity. Where required, appropriate design of the crossings would also set back abutments from watercourses to reduce any risk of disturbance of fish by noise and vibration during the piling of the bridge abutments.

4.2.7 Soffit heights at clear span crossings would be set on a site-specific basis, following more detailed survey and design work by the Main Works Contractor(s). On watercourses that achieve High or Good WFD status for invertebrates, soffit heights would be set as high as practicable above the Q95 water level (indicative of a summer, low flow condition), accounting for site-specific constraints, in order to facilitate the upstream migration of these species and avoid deterioration in the biological quality element.

4.2.8 Plans showing the typical arrangements for these bridge and culvert crossings are included in Appendix D. It is noted that although the crossings are not classified as 'temporary' in accordance with Environment Agency criteria, they would only be in place for the construction phase of the Project, following which the structures would be removed and any necessary reinstatement works would be undertaken (commitment W14).

4.2.9 Trenchless crossings are proposed for the cable crossings of the River Stour. At these crossings cables would be laid at least 1 m below the hard bed level of the river and remain at or below this level for a distance of not less than 3 m from the edge of the riverbank (commitment W06).

4.2.10 No WFD waterbodies would be crossed by the cable using open cut techniques. However, a number of watercourses without a WFD designation would be crossed using open cut trenches. W02 lists the commitments that would be in place for open cut watercourse crossings. These measures would safeguard water quality and reduce impacts on hydromorphology during construction.

4.2.11 There are several commitments in the Outline CoCP (document reference 7.2) that would reduce the likelihood of affecting vegetation in the riparian zone / on the banks of watercourses and reduce the magnitude of effects where this is unavoidable. These include reinstating vegetation at open cut crossings (commitment W02) and retaining riverbank and in-channel vegetation where not directly affected by installation works (commitment W03), as detailed in the Outline Landscape and Ecological Management Plan (LEMP) (document reference 7.4), which also details the riparian protected species mitigation measures that would be implemented, including, for example, water vole surveys within the survey season (mid-April to end September) before any riverbank digging or disturbance occurs. The Outline LEMP (document reference 7.4) also provides information on the Environmental Areas that would be created and maintained long term by the Project to deliver landscape and habitat mitigation and BNG.

4.2.12 Culverts of any length or extent are classified as a red activity given the potential for culverts to result in creation of barriers to the passage of fish and other aquatic organisms, change channel bed/bank form altering flow dynamics and sediment transport processes, and reduce lateral connectivity between watercourses and their floodplains.

4.2.13 No WFD designated watercourses would be culverted. Where culverting of other watercourses is proposed, the effects would be reduced through design and the commitments included in the Outline CoCP (document reference 7.2) that would be in place to manage associated impacts on waterbodies/watercourses. Residual effects would be not significant in terms of WFD compliance.

4.2.14 Method statements would be developed to ensure that any culverts installed within watercourses include suitable measures to allow the passage of animals (i.e., otters, water vole and fish) throughout construction, accounting for fluctuating water levels,

as secured by commitment B11 in the Outline CoCP (document reference 7.2). Where appropriate, in-channel works would be supported using a cofferdam, and for certain watercourses this would require fish rescue to be carried out under licence from the Environment Agency. This would entail using stop nets or equivalent to enclose the area of work and electric fishing the area a minimum of three times. Rescued fish would then be released a suitable distance downstream. The duration of construction activities within watercourses would be kept to a minimum to minimise effects.

4.2.15 As per commitment W03, culverts in waterbodies would either preserve the natural bed or be box culverts with inverts sunk a minimum of 300 mm below the hard bed of the watercourse with natural/existing bed material placed across the inside of the culvert to maintain the natural channel bed profile and materials. New culverts would be as short as practicable and sized to maintain the current land drainage regime and avoid narrowing of natural channel widths. During culvert installation, downstream flows would be maintained.

4.2.16 Following construction, temporary culverts and bridges would only be retained by exception e.g. if the new structure has replaced an existing one in poor repair, in which case the design of these would reflect their permanence (commitment W14).

4.2.17 Collectively, the measures described above would allow existing hydraulic and sediment transport regimes to be maintained, as well as providing culverts that are passable for fish, and other aquatic species.

General Construction Works

4.2.18 In order to reduce effects on water quality associated with soil strip, earthworks and stockpiled soil would be protected by covering, seeding or using water suppression where appropriate (commitment GG24). Material storage and laydown areas will be located outside of the fluvial floodplain where practicable (commitment W07) and fuels, oils, and chemicals will be stored responsibly to prevent release to ground and the water environment, away from sensitive water receptors (commitment GG21).

4.2.19 Wash down of vehicles and equipment will take place in designated areas within temporary construction compounds. Wash water will be prevented from passing untreated into watercourses and groundwater, and any proposed discharges would be made in accordance with suitable environmental permits, where required. Appropriate measures will include use of sediment traps (GG23).

4.2.20 An Outline Flood Warning and Evacuation Plan has been prepared (see Appendix G of the Outline CoCP (document reference 7.2)) for the construction phase. This outlines procedures to be implemented in case of imminent flooding or other severe weather events. This, combined with the standard mitigation measures described in the Outline CoCP (document reference 7.2), would reduce the effects associated with drilling mud breakout and would also reduce the likelihood of an unplanned event such as this occurring.

4.2.21 B04 describes commitments that would be in place to prevent the spread of INNS. Such commitments would include use of exclusion zones, use of appropriate Personal Protective Equipment and hygiene and sanitation practices (e.g. disinfection). All plant and machinery would be washed down and dried before being used on site. This procedure would be repeated at the end of the activities before the plant and machinery leave the site. There are also commitments to remove INNS, as detailed in paragraph 4.3.7.

Drainage Outfalls / Discharges

4.2.22 Drainage outfalls would be constructed to convey drainage to receiving watercourses from permanent operational infrastructure, as well as from temporary elements e.g. temporary construction compounds. As per commitment W15, drainage outfalls proposed will comprise only a small diameter buried pipe and a small outfall structure. Effects on the water quality attributes of receiving watercourses in all applicable waterbody catchments would be prevented by ensuring that prior to discharge, flows from non-permeable surfaces that are introduced by the Project are treated, using suitable forms of Sustainable Drainage Systems (SuDS), for example, to settle suspended solids (commitments W08 and W13). A Surface Water Management Plan will demonstrate how runoff across the site will be controlled and how any off-site effects will be managed and mitigated (commitment GG22). There will be no intentional discharge of site runoff to ditches, watercourses, drains or sewers without appropriate treatment and agreement of the appropriate authority (except in the case of an emergency, as defined by the Environmental Permitting (England and Wales) Regulations 2016) (commitment GG22).

4.2.23 The effectiveness of treatment measures will be monitored during construction by undertaking regular visual inspections and maintenance of treatment systems, in accordance with schedules set out in the CoCP or multiple CoCPs that are drafted by the Main Works Contractor(s) following detailed design. During operation (and maintenance) of the Project commitment W08 secures the maintenance of SuDS infrastructure over the lifetime of the Project.

4.2.24 These measures would combine to prevent scour around discharge outfalls and safeguard receiving water quality and flow regimes/ hydromorphology.

Excavations

4.2.25 Previously described embedded and standard mitigation measures relating to water quality and impacts relating to minimising impacts on land drainage regimes are relevant to excavations and works with the potential for impacts on groundwater.

4.2.26 Further to the previously described commitments, there are other commitments in the Outline CoCP (document reference 7.2) specifically relevant to excavations and works with the potential for impacts on groundwater, for example AS08 and GH13.

4.2.27 Commitments GH01, GH02, GH07, GH08, GH09 and GH10 would safeguard groundwater with respect to quality and avoiding changes to groundwater flows/ recharge patterns.

4.2.28 As per GH11, a Hydrogeological Risk Assessment will be undertaken to assess the specific risks to groundwater and groundwater receptors where required and identify any additional mitigation or remediation that may be required.

4.2.29 With regard to dewatering of excavations, any water removed would be discharged as close to the excavations as possible and as soon as practically possible so that the dewatered groundwater body is recharged as much and as soon as possible (commitment GH13 of the Outline CoCP (document reference 7.2)).

Summary

4.2.30 The embedded and standard mitigation measures described in the Outline CoCP (document reference 7.2) are secured through Requirement 4 of the draft DCO (document reference 3.1). This requires the Main Works Contractor(s) to prepare a CoCP to discharge the Requirement.

4.2.31 These measures would reduce effects on biological and physicochemical quality elements of the screened in surface waterbodies with respect to screened in activities. With respect to the temporary access crossings, the measures described above would also reduce effects on hydromorphology, in addition to reducing effects on the quantity and dynamics of flow and sediments within the waterbodies. The embedded and standard mitigation measures would also safeguard groundwater, reducing effects on quality and groundwater flows/recharge patterns.

4.2.32 The residual effects of the screened in Project activities (classified as amber and red) on WFD waterbodies within the ZoI are therefore concluded to have a negligible risk of causing waterbody deterioration or preventing achievement of good status. The Project is concluded to comply with these aspects of the legislation and no WFD derogation would be required.

Implementation of Mitigation Measures Specified in the Anglian/Thames RBMP

4.2.33 As detailed in Section 3.2, measures to improve the future status of the screened in waterbodies focus on improving water quality, sustainability of water resources, aquatic ecology (e.g. fish passage and habitats), flood risk management and floodplain restoration.

4.2.34 With the embedded and standard mitigation measures in place, it is considered that the Project would not prevent implementation of these mitigation measures.

4.2.35 The WaLOR has similar aims to some of the mitigation measures in the RBMPs. The Project is not anticipated to negatively impact implementation of the WaLOR and consultation has been ongoing with the Suffolk Wildlife Trust regarding the need for any specific measures that may need to be put in place or phasing of the works to ensure no detrimental impacts on the WaLOR.

4.2.36 With regard to the measures in the Anglian/Thames RBMP (Environment Agency, 2018a; 2018b) relating to fish, this WFD assessment has been informed by ES Appendix 8.4: Aquatic Report (document reference 6.8.A4) and has been previously referred to in this WFD assessment for baseline data. The Aquatic Report concludes that, '*Impacts to fish species can be mitigated for through pollution control measures, appropriate design of crossing structures to ensure passage is maintained for all fish species and, where feasible, timing works to avoid sensitive migratory/spawning periods*'.

4.2.37 As detailed in commitment B12, the Project will seek to provide strategic habitat enhancement and creation, aiming to identify and implement opportunities to improve habitat quality and connectivity and align with national nature recovery objectives and projects. Such measures may include specific habitat creation and enhancement measures and additional receptor specific measures. Environmental Areas would be located around the new/extended National Grid permanent assets (i.e. CSE compounds and substations). An indicative landscape design has been created for these areas which integrates the SuDS that would serve the assets. The habitats to be created and/or enhanced in these areas have been designed to provide landscape and visual benefits while also offering ecological value. Further details provided in the Outline LEMP (document reference 7.4).

4.2.38 Further, as detailed in the BNG Report (document reference 7.1) a suite of options are proposed for habitat creation in watercourses and ditches which include removal of INNS, bank top, marginal and aquatic vegetation planting and removal of litter and debris.

Compliance with Other Legislation

4.2.39 The Project's compliance with other legislation and planning policy is described in ES Chapter 2: Key Legislation and Planning Policy Context (document reference 6.2). This concludes that the Project does not compromise implementation of other legislation nor cause non-compliance with relevant legislation.

4.3 Cumulative Assessment

4.3.1 Several of the 'other watercourses' (i.e. not designated as WFD waterbodies) within the ZoI would be crossed by the underground cable trenches using open cut techniques and a number of these minor watercourses would also be temporarily culverted along construction access routes. As per commitment W14, the temporary culverts would be removed unless replacing an existing structure in poor condition.

4.3.2 The temporary culvert crossings for the temporary access routes would typically be less than 10 m in length, as indicated in the typical layout drawings included in Appendix D. There would be temporary access routes for the underground cable and for the overhead line; the associated temporary culverts are summarised below in Table 4.1 and Table 4.2 respectively. The total number of culverts within each of the receiving WFD waterbody catchments is stated, with a breakdown to indicate those crossings that would be situated on drains / ditches and those on watercourses.

4.3.3 Crossing for the cable installation would qualify as a low risk activity, as described in Section 4.2 and the cumulative effects would be reduced by the installation being undertaken along a rolling programme along the cable route, followed by reinstatement, rather than undertaking all of the activity simultaneously.

Table 4.1 Temporary access route culverts for watercourse crossings – underground cable

Receiving WFD Waterbody (ID)	Drain/ Ditch Crossings	Watercourse Crossings
Stutton Brook (GB105036040890)	5	-
Stour (d/s R. Brett) (GB105036041000)	5	-

Table 4.2 Temporary access route culverts for watercourse crossings – overhead line

Receiving WFD Waterbody (ID)	Drain/ Ditch Crossings	Watercourse Crossings
Section A		
Tas (Tasburgh to R. Yare) (GB105034051230)	13	-
Tributary of Tas (GB105034050950)	7	-
Tas (Head to Tasburgh) (GB105034045730)	33	2
Frenze Beck (GB105034045840)	22	1
Waveney (u/s Frenze Beck) (GB105034045820)	8	-
Section B		
Tributary of Upper Waveney (GB105034045750)	8	2
Little Ouse (US Thelnetham) (GB105033043060)	3	-
Dove trib – Finningham (GB105034045660)	17	1
Mendlesham Stream (GB105034045650)	5	-
Gipping (u/s Stowmarket) (GB105035046180)	14	-
Gipping (d/s Stowmarket) (GB105035046280)	14	-
Wattisham Watercourse (GB105035040350)	12	-
Somersham Watercourse (GB105035040310)	13	-
Belstead Brook (GB105035040440)	11	-

Receiving WFD Waterbody (ID)	Drain/ Ditch Crossings	Watercourse Crossings
Section C		
Stutton Brook (GB105036040890)	5	-
Stour (d/s R. Brett) (GB105036041000)	5	-
Salary Brook (GB105037041320)	13	-
Tenpenny Brook (GB105037041310)	3	-
Section D		
Colne (d/s Doe's Corner) (GB105037041330)	21	-
Roman River (GB105037034150)	13	-
Section E		
Blackwater (Combined Essex) (GB105037041160)	19	-
Brain (GB105037041140)	5	-
Ter (GB105037033940)	24	-
Section F		
Chelmer (Gt Easton - R. Can) (GB105037033950)	11	-
Chignall Brook (GB105037033650)	10	-
River Can (GB105037033840)	5	-
Roxwell Brook (GB105037033540)	5	-
Wid (Margaretting Hall - R. Can) (GB105037033900)	14	-
Wid (Ingatestone Hall - Margaretting Hall) (GB105037028690)	4	-
Wid (Shenfield STW - Ingatestone Hall) (GB105037028670)	4	-

Receiving WFD Waterbody (ID)	Drain/ Ditch Crossings	Watercourse Crossings
Section G		
Wid (Doddinghurst Brook - Shenfield STW) (GB105037028680)	4	-
Haverings Grove Brook (GB105037028650)	5	-
Crouch (Upper) - u/s A129 (GB105037028500)	11	-
Mardyke (East Tributary) (GB106037028070)	8	-
Section H		
Mardyke (GB106037028200)	10	-

4.3.4 The number of temporary culverts within each WFD surface waterbody catchment is variable. In terms of cumulative effects, individual losses would be generally in stretches of 10 m or less hence losses from each individual ditch/watercourse would be small and the vast majority of ditch/watercourse habitat in the landscape would be preserved intact.

4.3.5 In addition, embedded and standard mitigation measures would be in place to reduce impacts on the hydromorphology and biological quality elements of watercourses associated with culvert crossings. Key measures include retention of riverbank and in-channel vegetation where practicable and preserving natural bed profiles and substrates through culverts at temporary watercourse crossings (W03). As stated previously in Section 4.2, the Project will seek to provide strategic habitat enhancement and creation (commitment B12). As described, good practice culvert design would be adopted to reduce barrier effects and the cumulative effects of temporary culverting and associated habitat loss would ultimately be reinstated.

4.3.6 A condition survey has been undertaken at each watercourse crossing location as part of the BNG assessment. The condition surveys considered the structure and composition of the watercourse at each location and informed the assessment of impact as part of the BNG calculations. Subsequently, this informed the prescribed measures for watercourses to mitigate impacts and provide the BNG with environmental and societal benefits that National Grid is committed to for the Project. Examples of these prescribed measures include INNS removal, litter removal and bank top, marginal and aquatic planting. Further detail is provided in the Outline LEMP (document reference 7.4).

4.3.7 The cumulative reach lengths of the tributaries of WFD waterbodies temporarily impacted by Project activities, have been considered in the context of the WFD waterbodies as a whole. Given the embedded and standard mitigation measures, it is concluded that there is negligible residual risk of deterioration at the waterbody scale and no compromise of WFD targets.

4.4 Sensitivity Testing

4.4.1 As noted in Section 2, the assessment presented within this report is based on the Project alignment described in ES Chapter 4: Project Description (document reference 6.4) and shown on ES Figure 4.1: Proposed Project Design (document reference 6.4.F1). However, it should be noted that aspects of the Project are not fixed and could be located anywhere within the LoD and in addition a number of design scenarios have been identified (as described in Section 4.6 of ES Chapter 4: Project Description (document reference 6.4).

4.4.2 Sensitivity checks have been undertaken to consider the flexibility provided by the LoD and for design scenarios to understand if they would change the assessment presented above. This has concluded that when taking account of the embedded and standard mitigation measures described in Appendix B, changes as a result of the LoD and design scenarios on screened in waterbodies would not result in any new impacts, nor increase the risk of waterbody deterioration. Therefore, the objectives of the WFD would not be compromised when considering flexibility provided within the LoD and design scenarios.

5. Conclusion

5.1.1 A screening assessment has been undertaken in relation to the Norwich to Tilbury Project comprising four stages. Each stage of assessment has been shared with the Environment Agency and their comments have been addressed Appendix C).

5.1.2 Stages 1 and 2 of the assessment defined the ZoI of the Project and screened WFD surface, transitional and groundwater bodies within the ZoI for the potential to be impacted by the Project. The conclusions of Stages 1 and 2 have been agreed with the Environment Agency.

5.1.3 The WFD waterbodies that were screened in comprise 39 surface waterbodies (including one transitional waterbody) and five groundwater bodies. Several watercourses, that are not designated WFD waterbodies, drain to the surface WFD waterbodies and the potential effects on these watercourses have been considered cumulatively within the assessment of the WFD waterbodies. Protected areas and GWDTEs with a hydrological link to these waterbodies were also screened in.

5.1.4 Stage 3 of the assessment entailed screening Project components and activities for the potential to cause deterioration of the status of the screened in waterbodies, or prevent their objectives being met. The conclusions of Stage 3 has been agreed with the Environment Agency.

5.1.5 With regard to surface WFD waterbodies, the review of the Project components concluded the potential for negative effects linked to the following: general construction (including use of haul roads); construction waste handling/treatment; watercourse crossing – culverting, dewatering of excavations; and permanent infrastructure within the Project boundary (CSE compounds and substations). For river waterbodies this also included watercourse crossing – structures spanning watercourses (new single span bridges) and drilling for trenchless crossings.

5.1.6 With regard to groundwater bodies, the review of the Project components concluded the potential for negative effects linked to general construction (including use of haul roads), construction waste handling/treatment, drilling for trenchless crossings, excavations for underground cable and foundations (including dewatering), and permanent infrastructure within the Project boundary (CSE compounds, substations and underground cable).

5.1.7 These activities were taken forward to Stage 4 of the assessment.

5.1.8 Stage 4 concluded that the residual effects of the activities on the screened in waterbodies would be negligible at the waterbody scales, following the implementation of the embedded and standard mitigation measures outlined in Appendix B.

5.1.9 This assessment concludes that the Project is compliant with the objectives of the WFD, including preventing any deterioration in the status of a waterbody, and when considering the potential for cumulative effects. On this basis, no further assessment is proposed and no WFD derogations would be required.

5.1.10 Sensitivity testing has also been undertaken to consider the flexibility afforded by the set LoD and design scenarios in relation to land required for construction of the Project. These concluded that, taking account of the embedded and standard mitigation measures, any changes to the positions of permanent crossings of waterbodies would not compromise the objectives of the WFD, or the conclusions presented in this report.

Abbreviations

Abbreviation	Full Reference
AIS	Air Insulated Switchgear
AONB	Area of Outstanding Natural Beauty
BNG	Biodiversity Net Gain
CSE	Cable Sealing End
CoCP	Code of Construction Practice
DCO	Development Consent Order
d/s	Downstream
DS	Downstream
EACN	East Anglia Connection Node
ECoW	Ecological Clerk of Works
ES	Environmental Statement
FWRA	Foundation Works Risk Assessment
GIS	Gas Insulated Switchgear
GWDTEs	Groundwater Dependent Terrestrial Ecosystems
GW	Groundwater
INNS	Invasive Non-Native Species
Km	kilometre
kV	Kilovolt
LEMP	Landscape and Ecological Management Plan
LLFA	Lead Local Flood Authority
LoD	Limits of Deviation
LPA	Local Planning Authority
NETS	National Electricity Transmission System
PBDE	Polybrominated diphenyl ethers
RNAGs	Reason for Not Achieving Good status
RBMP	River Basin Management Plan
SQSS	Security and Quality of Supply Standard
SPZ	Source Protection Zone
STW	Sewage Treatment Works

Abbreviation	Full Reference
SuDS	Sustainable Drainage Systems
SWMP	Site Waste Management Plan
TraC	Transitional and Coastal
u/s	Upstream
UK	United Kingdom
US	Upstream
WFD	Water Framework Directive
WINEP	Water Industry National Environment Programme
WaLOR	Waveney and Little Ouse Recovery
ZoI	Zone of Influence

Glossary

Term	Description
Biodiversity Net Gain	The process of ensuring that developments leave the natural environment in a better state than before.
Code of Construction Practice	A code of construction practice sets out the standards and procedures to which a developer (and its contractors) must adhere in order to manage the potential effects of construction works.
Ecological Clerk of Works	A professional responsible for monitoring the construction works to ensure compliance with any licences, permits and consents obtained to avoid effects on protected species and habitats, along with ensuring compliance with environmental legislation.
Flood Risk Activity Permit	A formal approval issued by regulatory authorities that allows individuals or organisations to carry out specific works or activities in, near, or that may affect a watercourse, floodplain or flood defence infrastructure
Foundations Works Risk Assessment	An assessment that identifies, analyses and mitigates risks associated with the construction of foundations for buildings or structures.
Landscape and Ecological Management Plan	A plan outlining the management, maintenance and enhancement of a site's landscape and ecological features in line with environmental regulations.
Lead Local Flood Authority	A specific organisation, typically a county, council or unitary authority, designated under the Flood and Water Management Act 2010 to manage local flood risks.
Main Rivers	A watercourse that is formally designated as such by the Environment Agency due to its significance for managing flood risk.
Main Works Contractor(s)	Contractor(s) appointed by National Grid to construct the Project
Order Limits	The maximum extent of land within which the authorised development may take place.
Primary Access Route	These are the roads on the local road network that would be used by construction vehicles between the strategic road network and the access points within the Order Limits.
River Basin Management Plan	A plan that sets out the framework for protecting and improving the water environment within a river basin district, as required under the Water Framework Directive.
Site Waste Management Plan	A plan outlining how waste will be managed, minimised and disposed of during a construction project.
Surface Water Management Plan	A document or strategy designed to manage surface water runoff and drainage during construction activities.
Sustainable Drainage Systems	Sustainable Drainage Systems (SuDS) are drainage solutions designed to manage surface water in a way that mimics natural processes,

Term	Description
	promoting sustainability by reducing flood risk, improving water quality and enhancing the environment.
Transitional Waterbodies	Waterbodies that are located between freshwater and marine environments.
Water Framework Directive	The Water Framework Directive (2000/60/EC) commits European Union member states to achieve good qualitative and quantitative status of all water bodies. It is transposed into law in England and Wales via The Water Environment (Water Framework Directive) (England and Wales) 2017 Regulations, which were retained via the European Union (Withdrawal) Act 2018.
Water Industry National Environment Programme	A programme that sets out legally required and voluntary measures for water companies to protect and improve the water environment, aligning with environmental regulations and national priorities like the Water Framework Directive.

Bibliography

Environment Agency (2016). *Water Framework Directive technical guidance on compliance of physical works in rivers.* 488_10_SD06 version 1.

Environment Agency (2018a). *Anglian river basin district river basin management plan* [online] Available at https://www.gov.uk/government/publications/anglian-river-basin-district-river-basin-management-plan (accessed January 2025).

Environment Agency (2018b). *Thames river basin district river basin management plan* [online] Available at https://www.gov.uk/government/publications/thames-river-basin-district-river-basin-management-plan (accessed January 2025).

Environment Agency (2023a) Catchment Data Explorer. [online] Available at https://environment.data.gov.uk/catchment-planning/ (accessed October 2024).

Environment Agency (2023b) *Exempt flood risk activities: environmental permits*. '3. Service crossing below the bed of a main river not involving an open cut technique (FRA3)' [online] Available at https://www.gov.uk/government/publications/environmental-permitting-regulations-exempt-flood-risk-activities (accessed January 2025).

CL:AIRE (2025) *Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention*.

Planning Inspectorate (2024) *Nationally Significant Infrastructure Projects: Advice on the Water Framework Directive*. [online] Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-the-water-framework-directive (accessed January 2025).

(Suffolk Wildlife Trust, 2022) *Waveney and Little Ouse Recovery (WaLOR) Project* [online] Available at https://www.suffolkwildlifetrust.org/WaLOR

Appendix A. Figures

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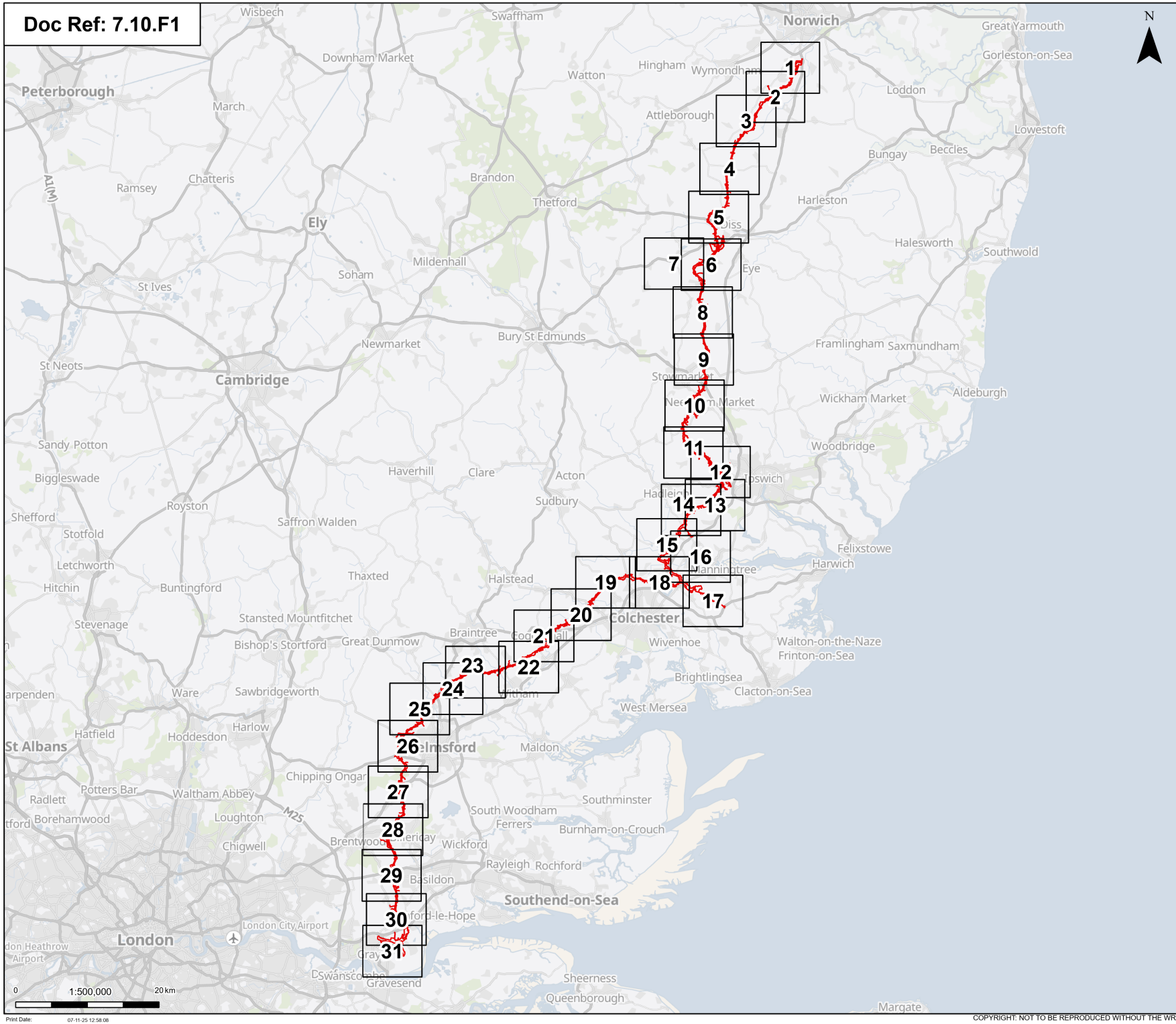

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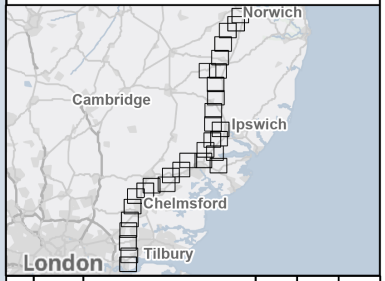

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A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status Overview

Designed	L. Driscoll	Date	21 Aug 25
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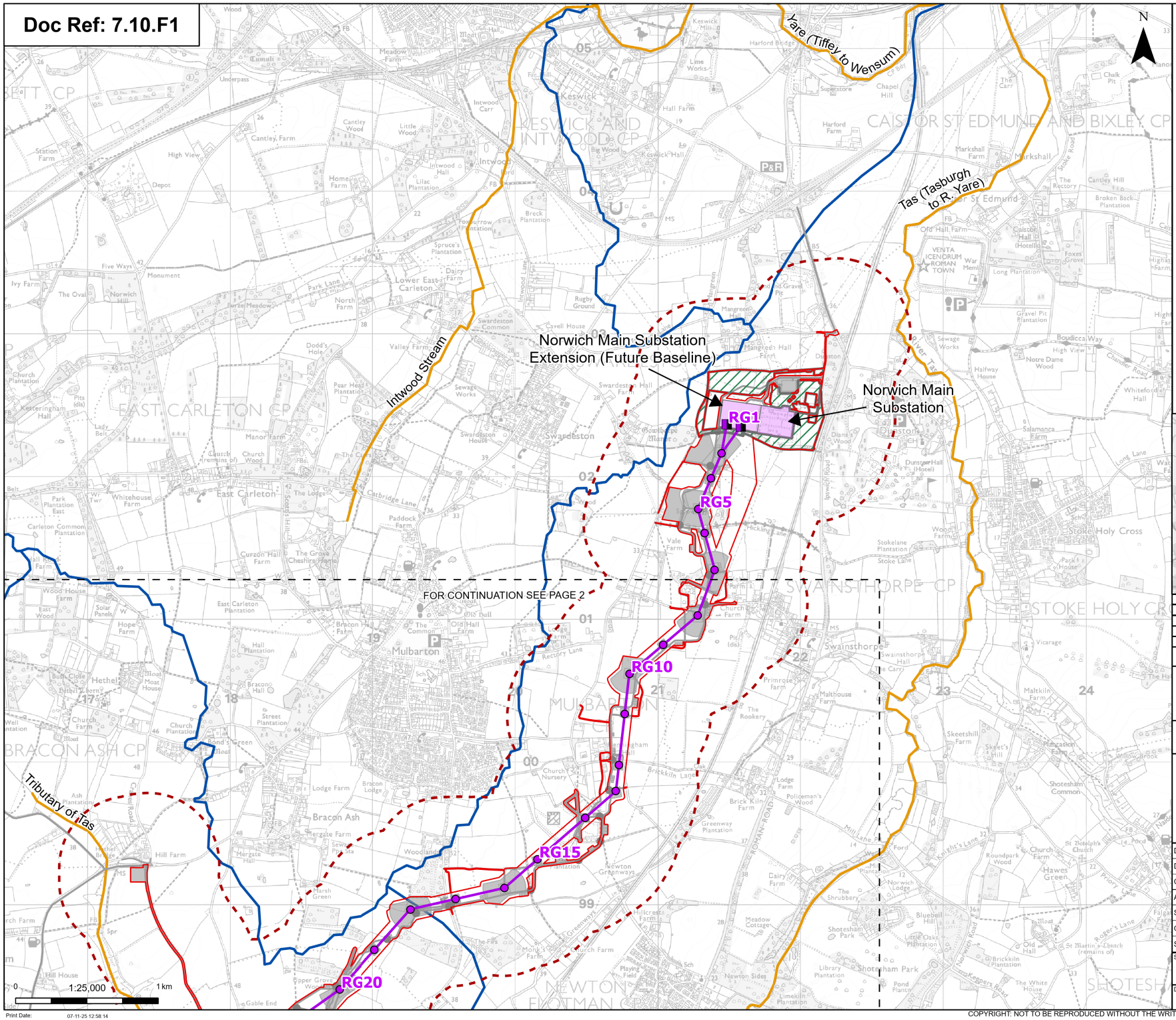


- Order limits
- Sheet index cutline

Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Norwich Main Substation
- Norwich Main Substation Extension (future baseline)
- Environmental area
- Other temporary and permanent construction and operational works

Discipline specific constraints

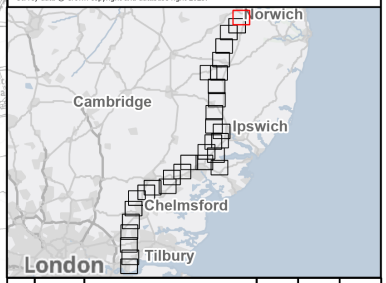
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
Page 1 of 31

Designed	L. Driscoll	Date	21 Aug 25
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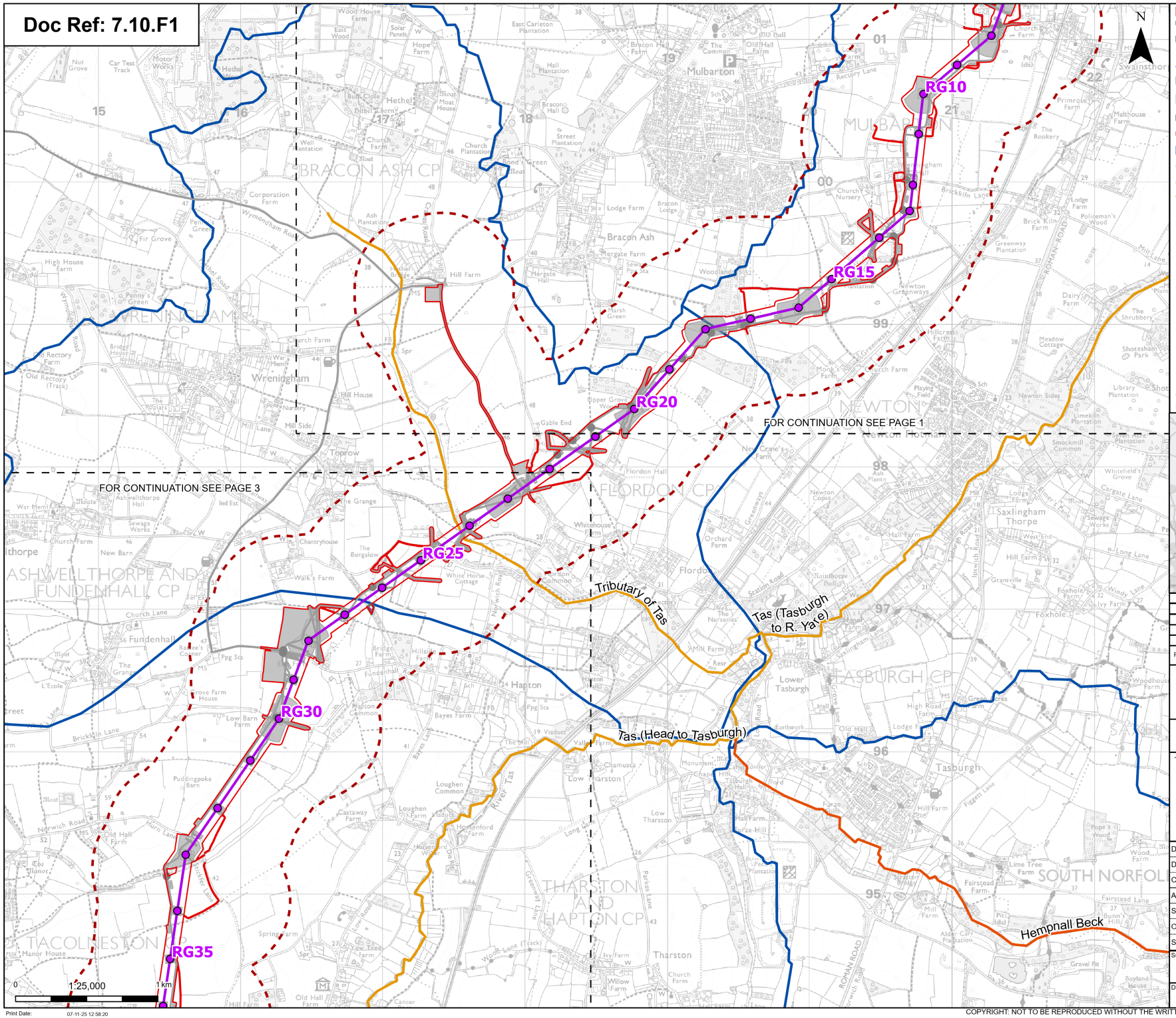

Order limits
Sheet index cutline

Proposed project design details

Proposed standard lattice pylon location
Proposed overhead line alignment
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate
Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

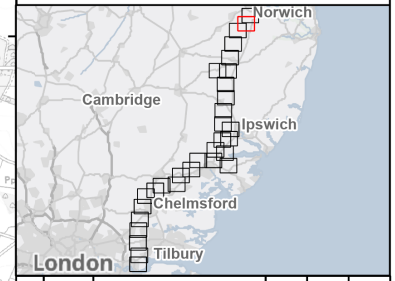

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
Page 2 of 31

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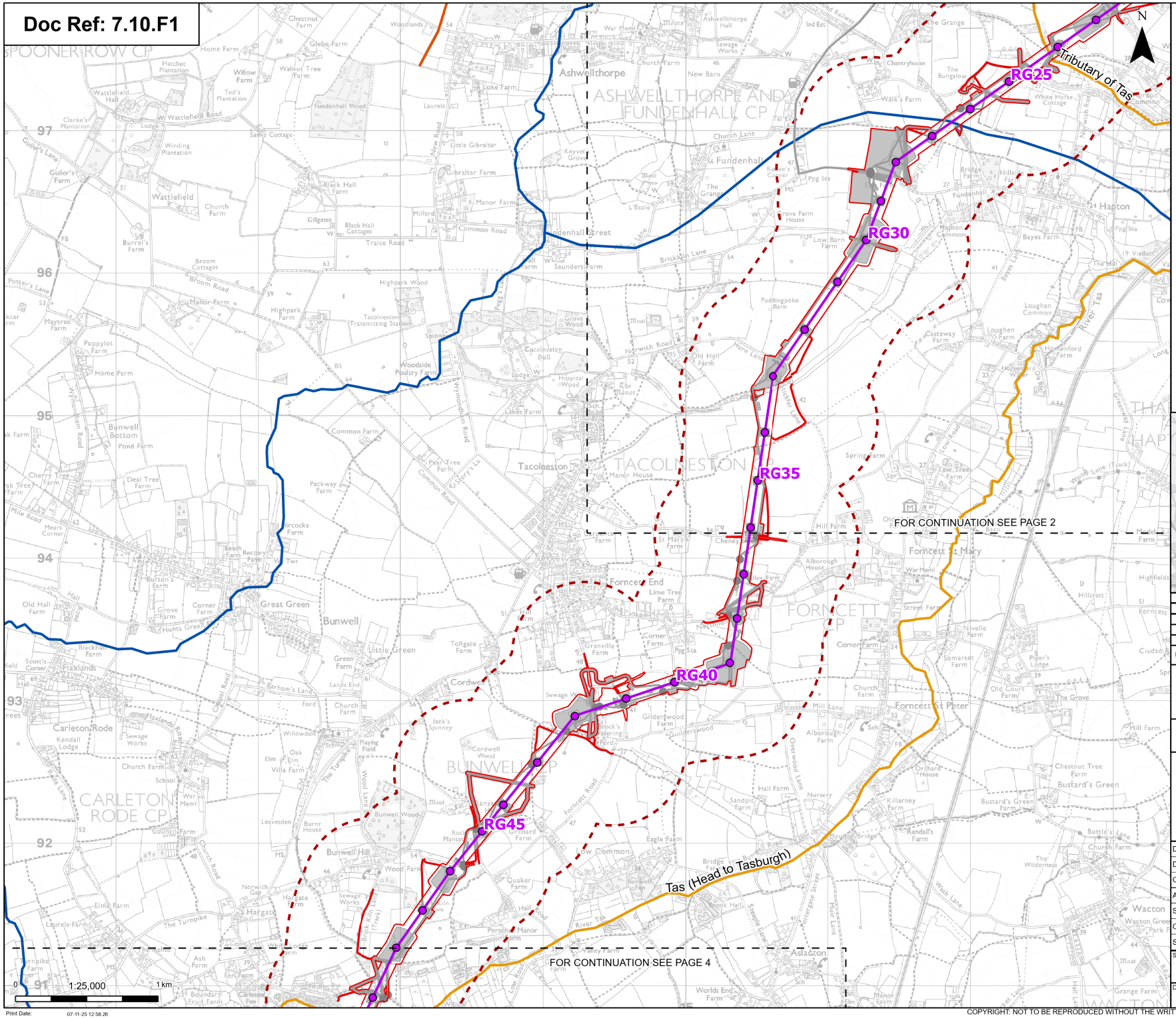

Order limits
Sheet index cutline

Proposed project design details

Proposed standard lattice pylon location
Proposed overhead line alignment
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

Zone of Influence
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Water Framework Directive waterbody ecological status

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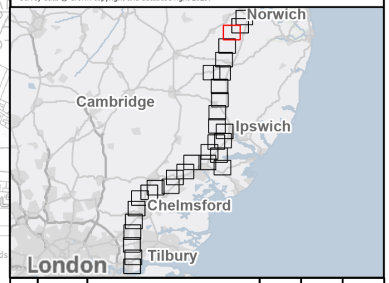

Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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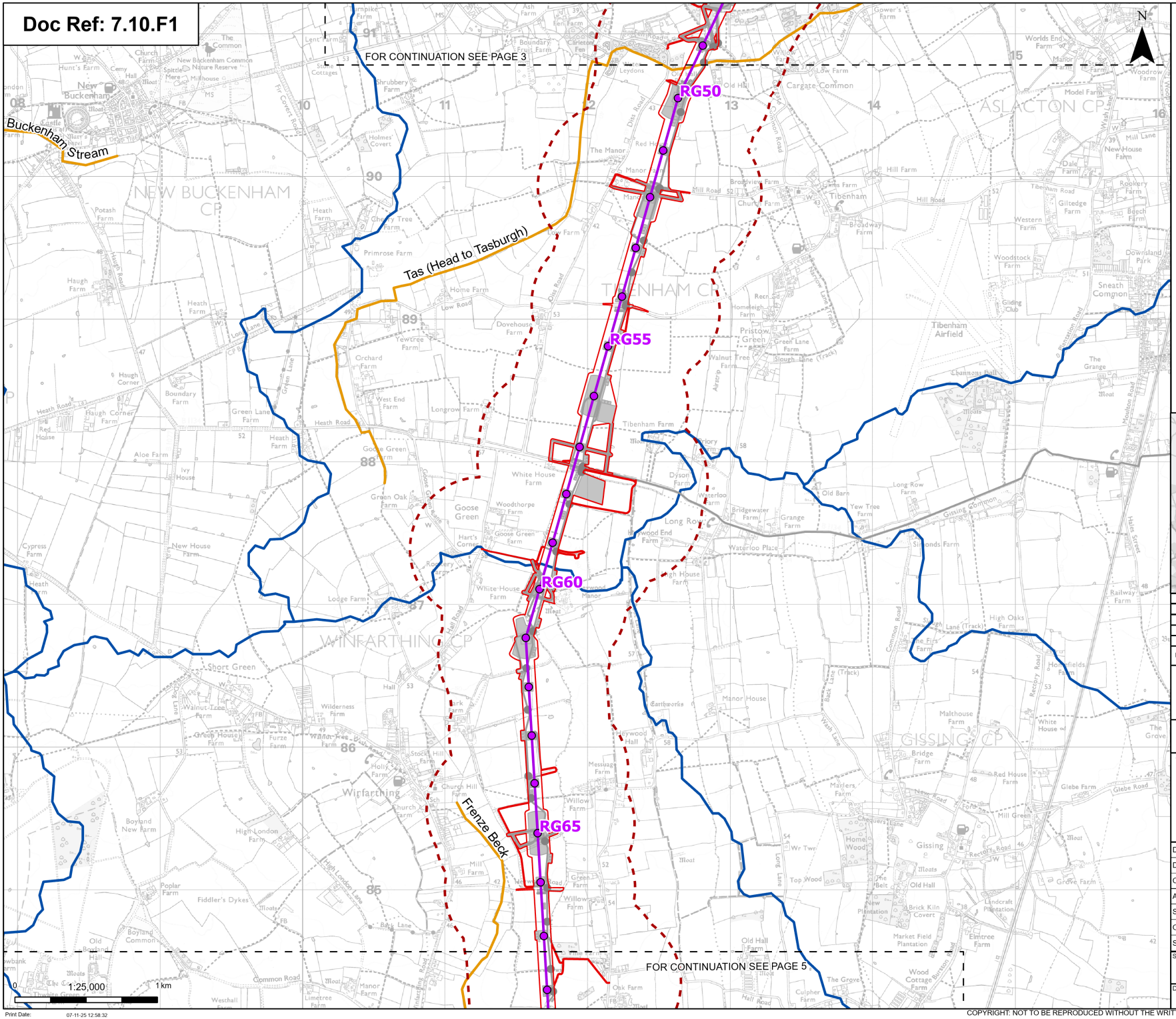
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
Revision: A

Print Date: 07-11-25 12:58:26

Doc Ref: 7.10.F1



Order limits

Sheet index cutline

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

Zone of Influence

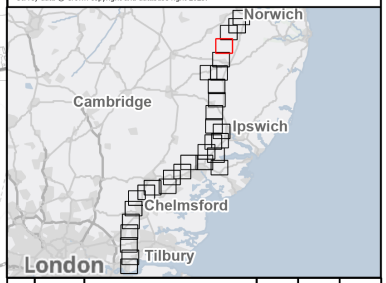
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

Suitability Description:

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Revision: A

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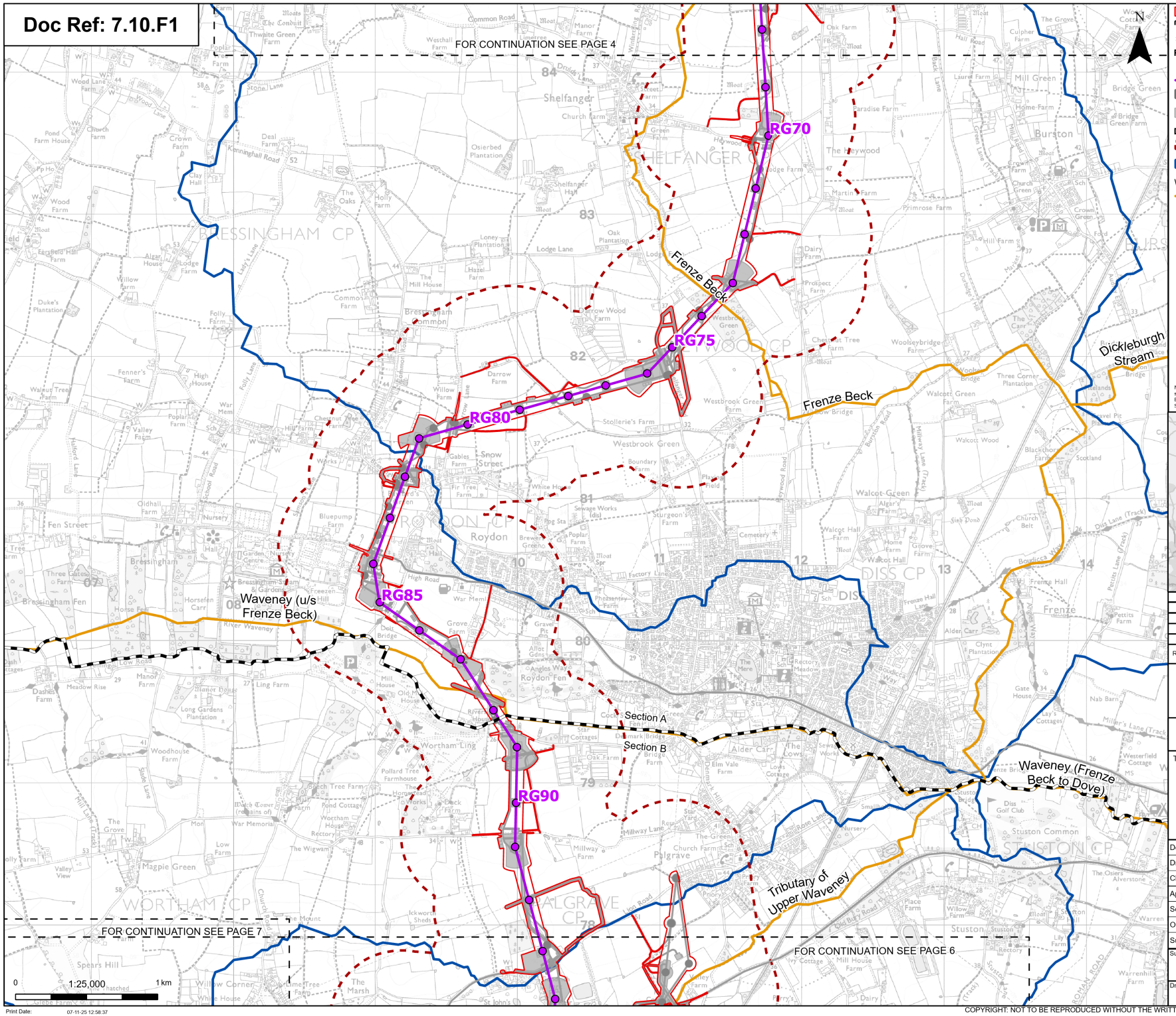


- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

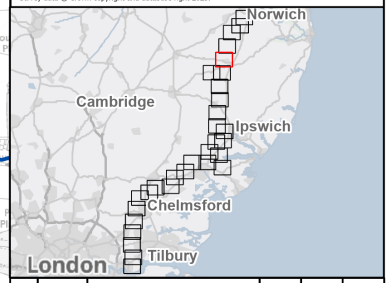
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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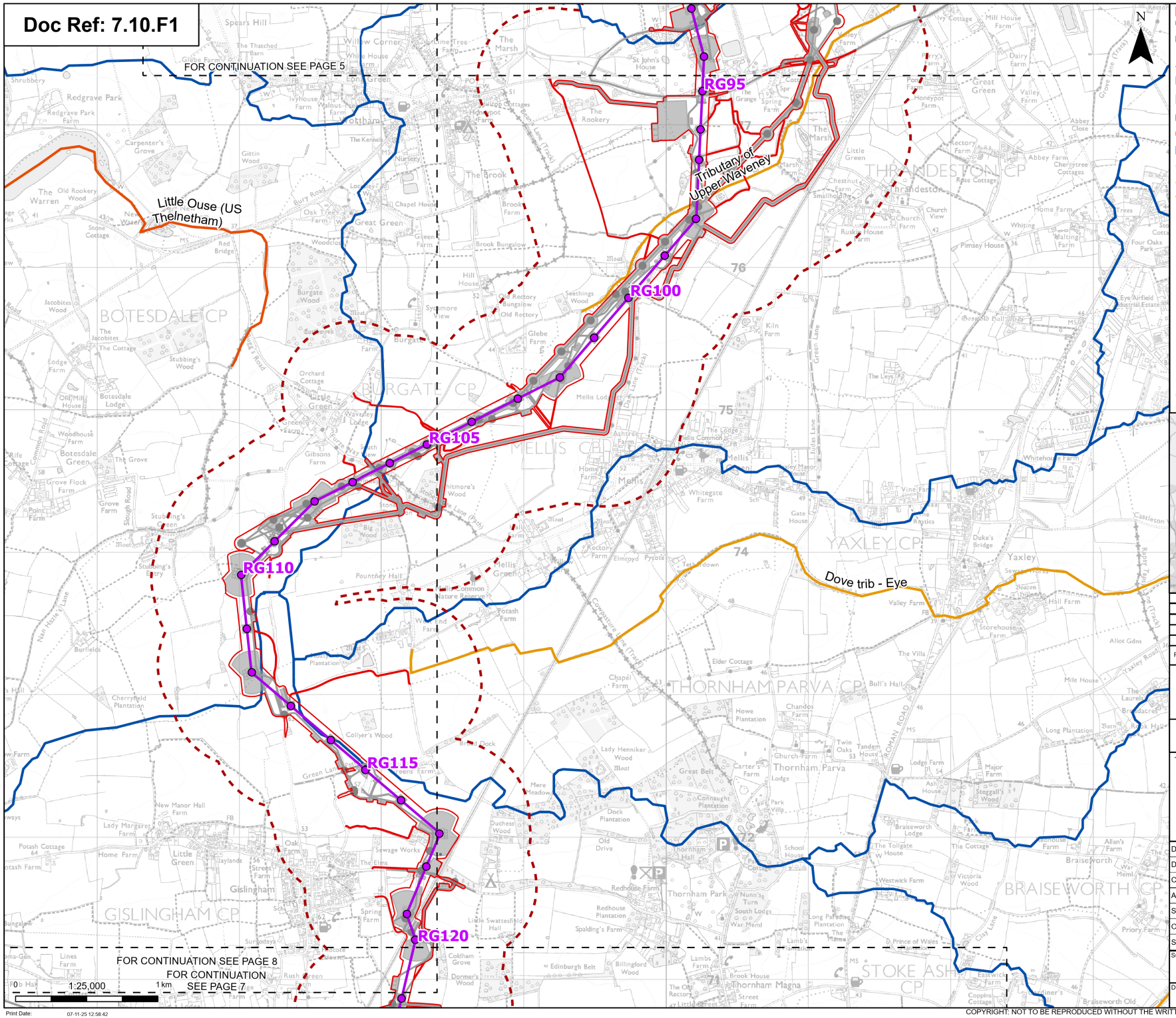
Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

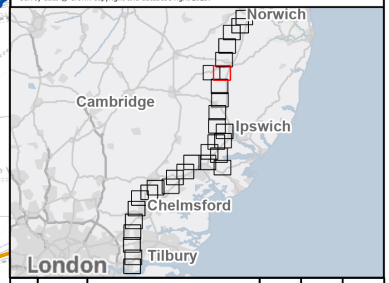
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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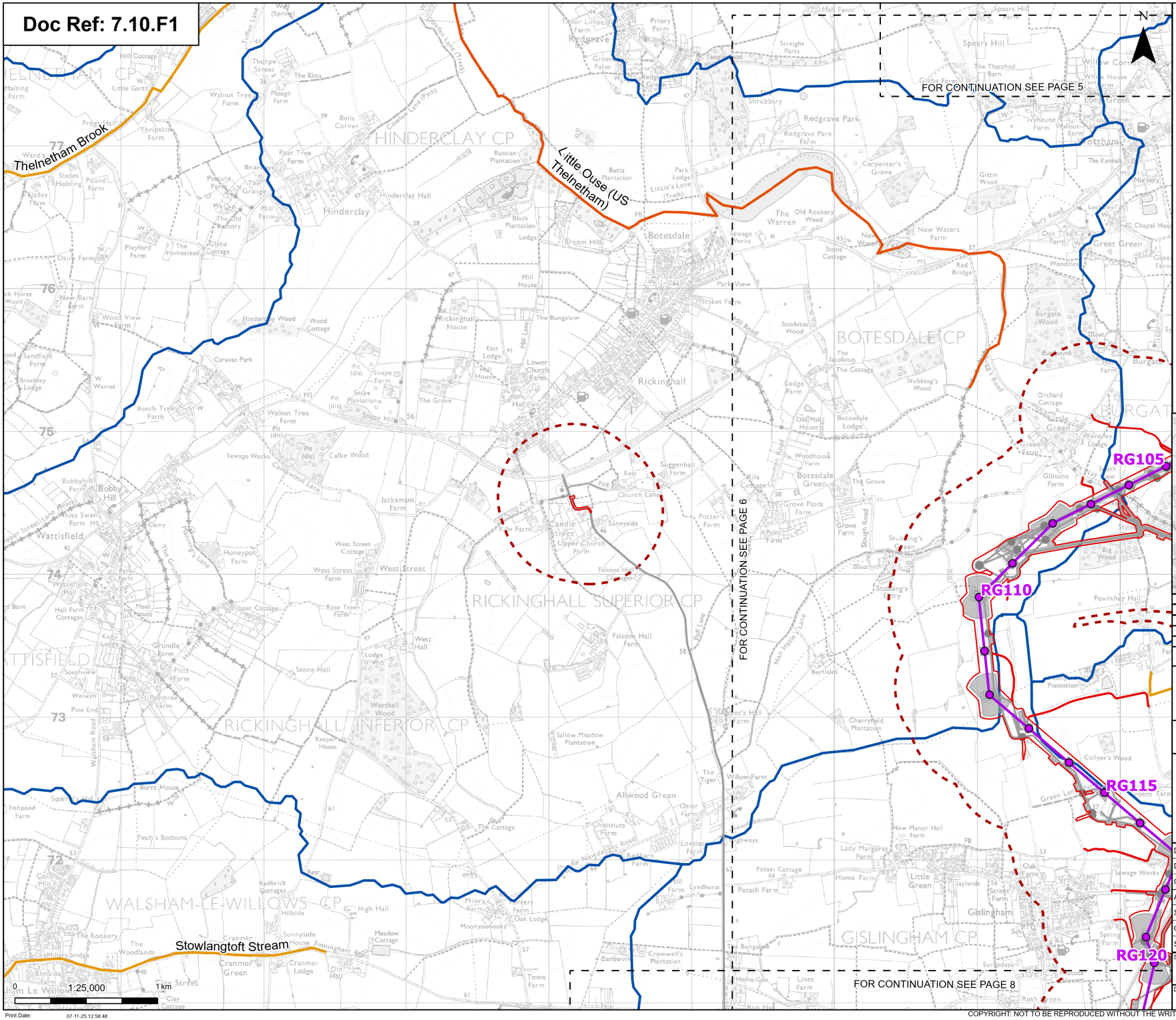
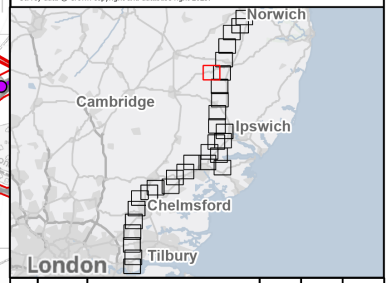
Doc Ref: 7.10.F1





- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Other temporary and permanent construction and operational works

Discipline specific constraints

- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status

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Designed	L. Driscoll	Date	21 Aug 25
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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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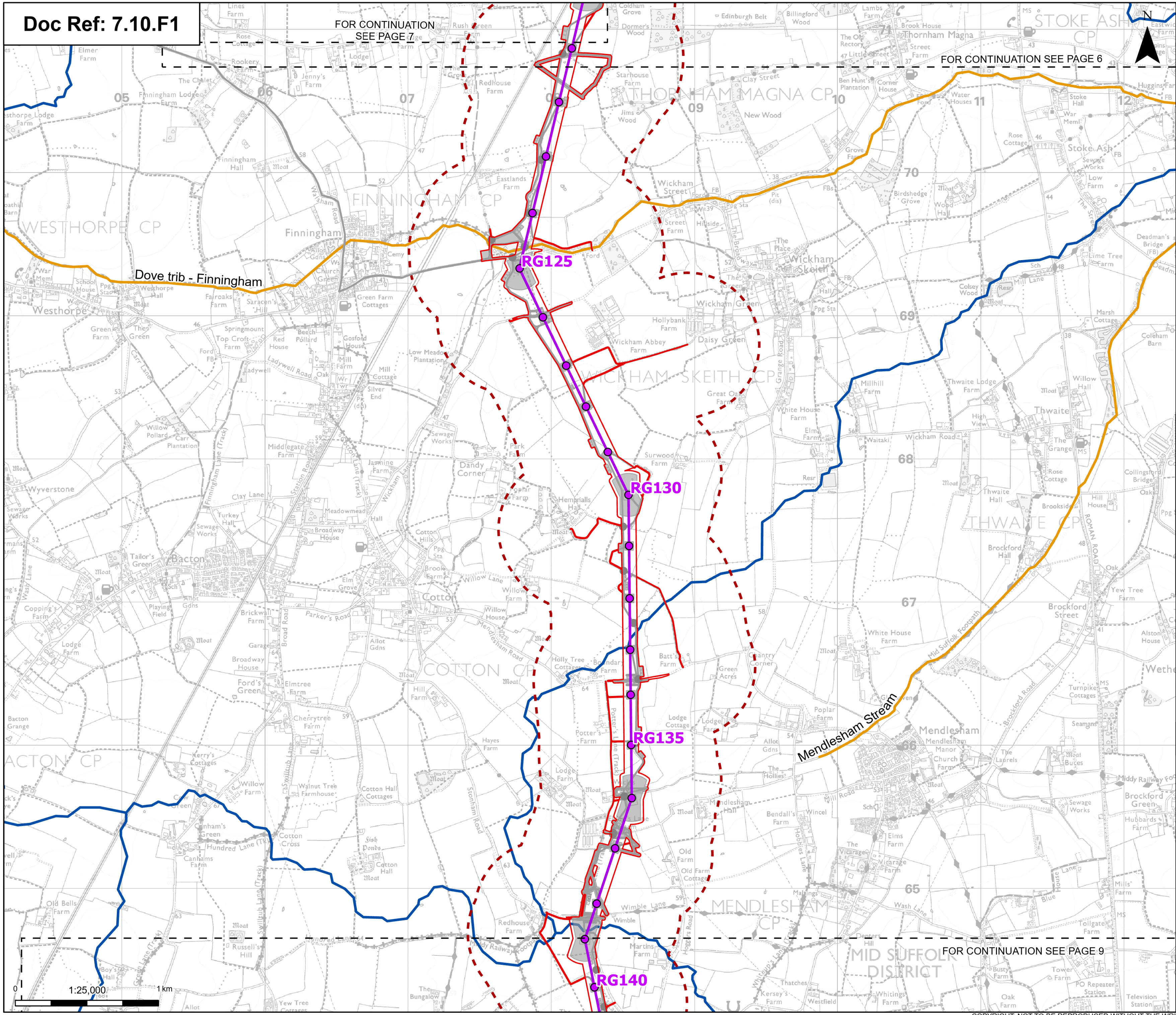
Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Other temporary and permanent construction and operational works

Discipline specific constraints

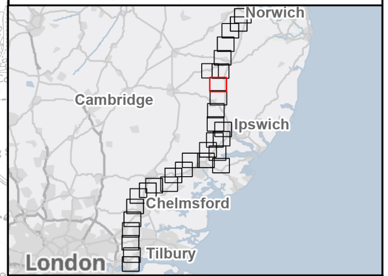
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298 | Revision: A

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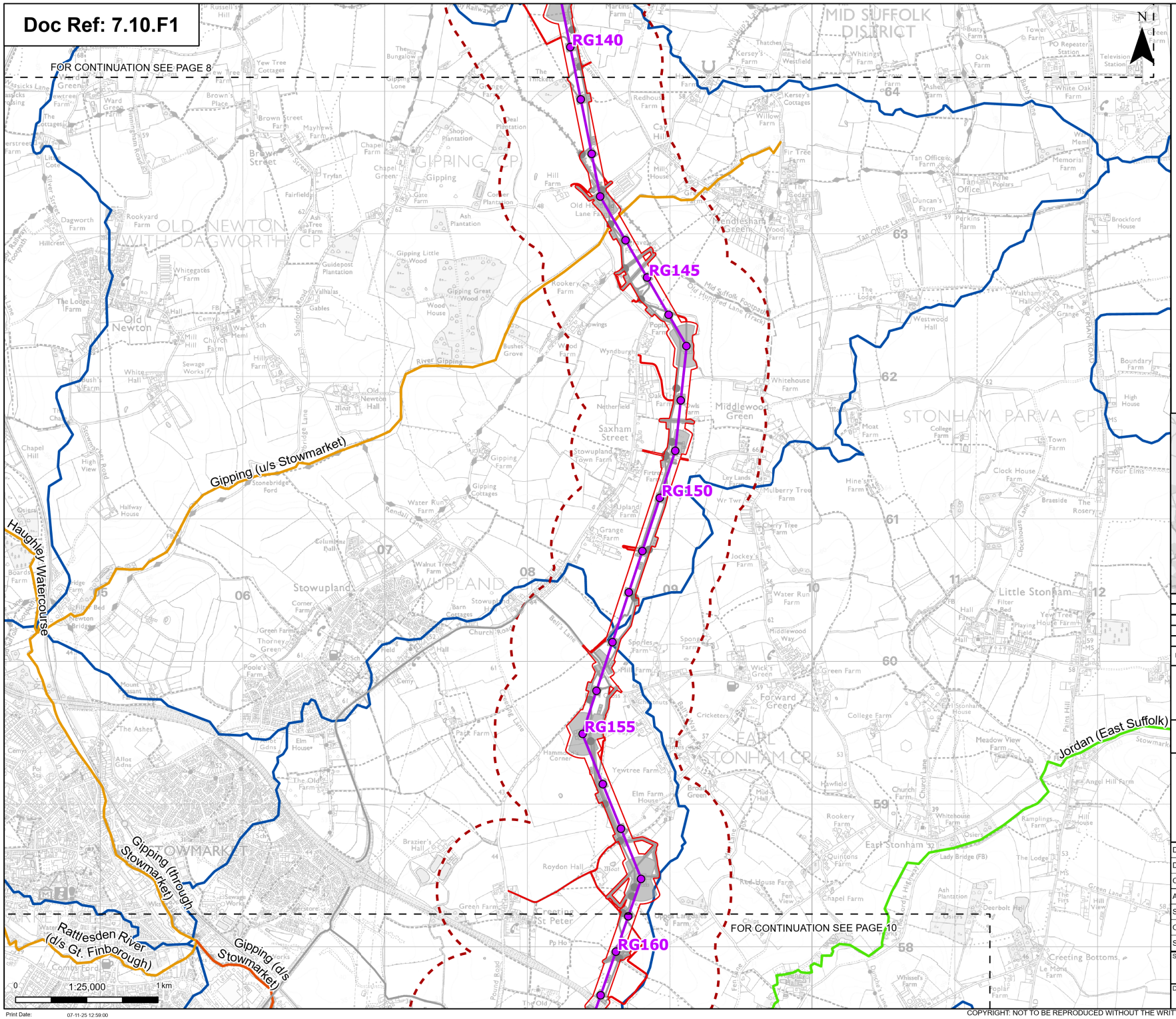

N

- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Other temporary and permanent construction and operational works

Discipline specific constraints

- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Good
- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
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Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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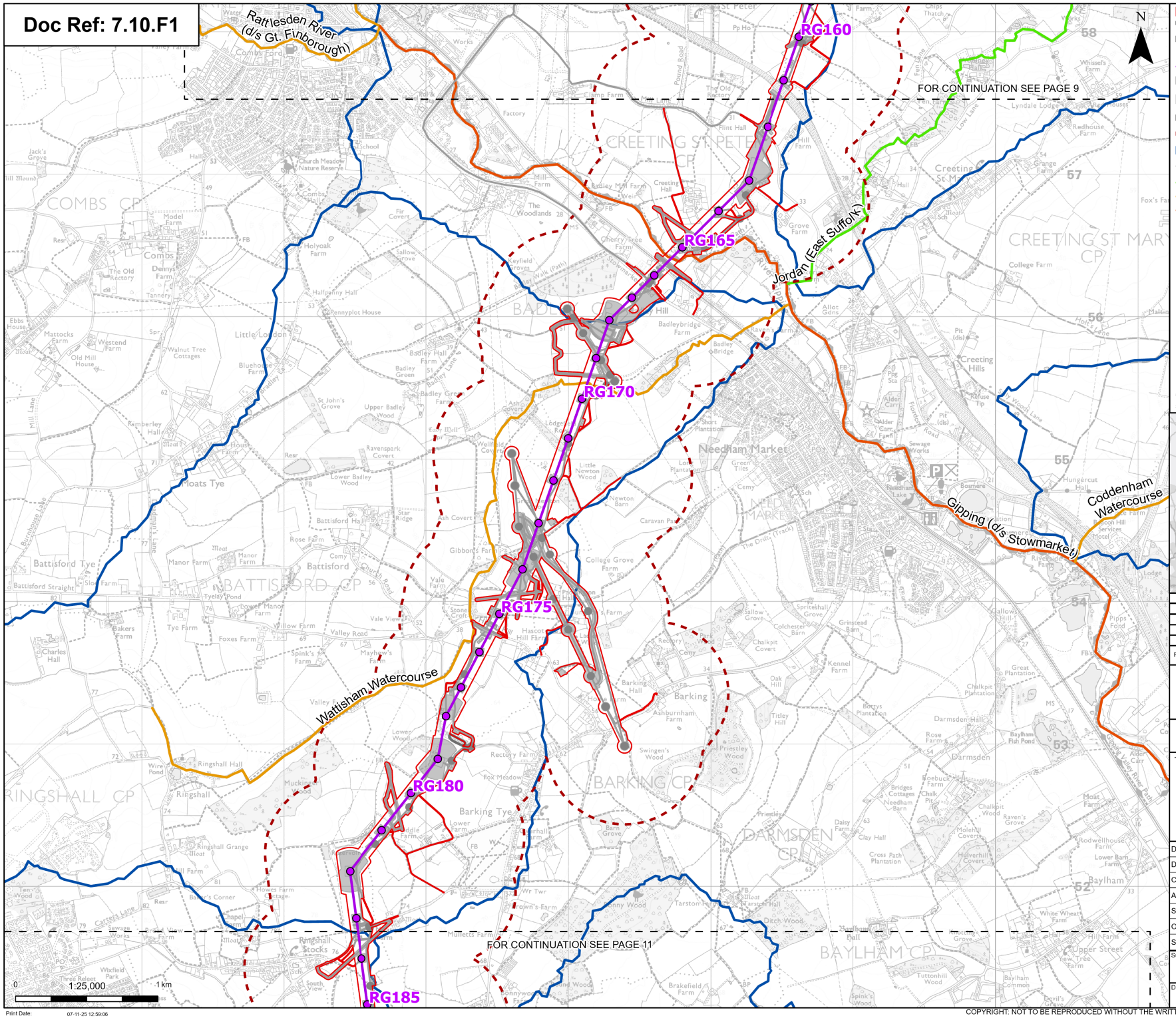
Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Good
- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

Rev	Date	Description	Drawn	Check	Approv
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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
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Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
Revision: A

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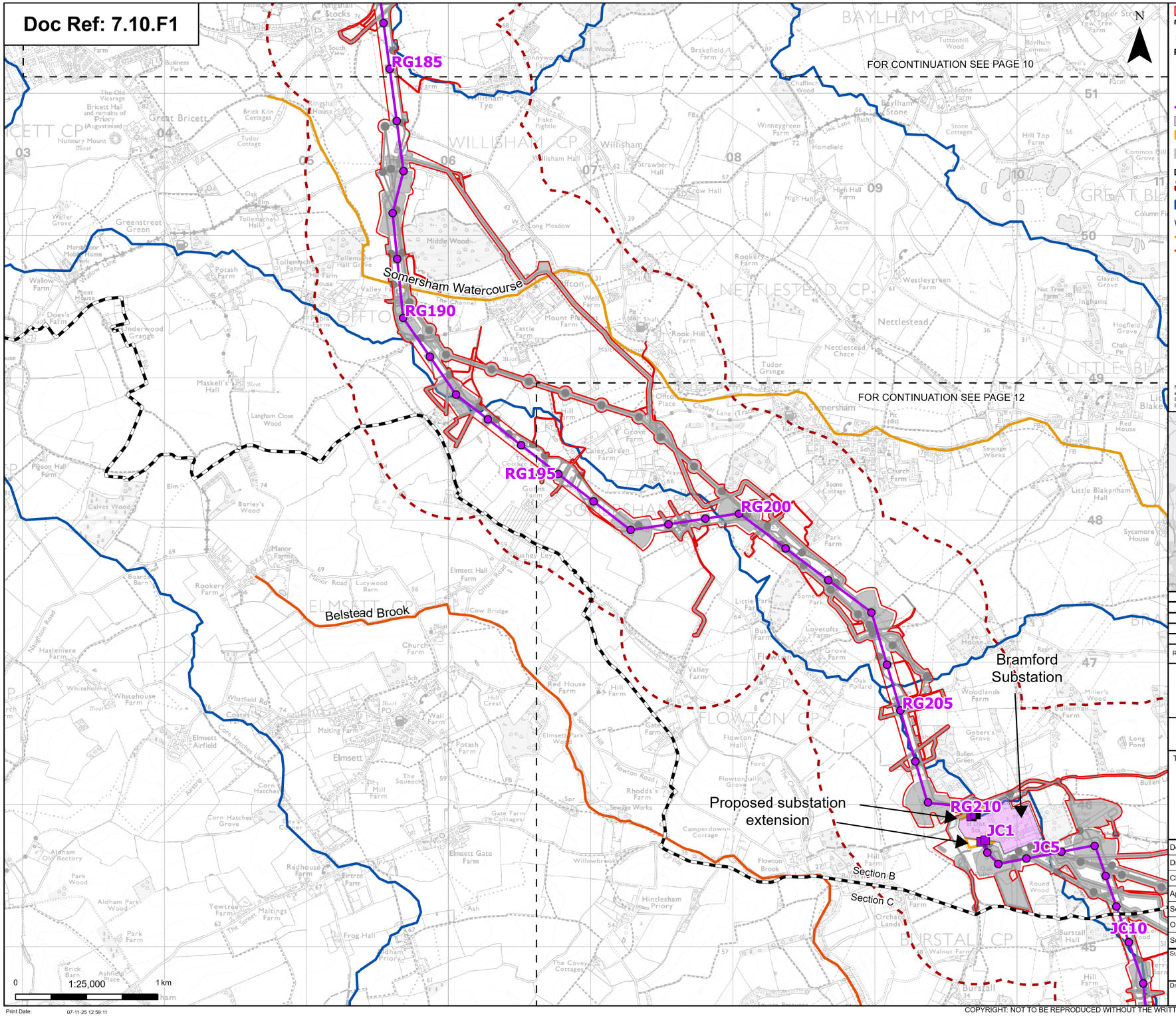

- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed low duty gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Bramford Substation
- Bramford Substation Extension
- Other temporary and permanent construction and operational works

Discipline specific constraints

- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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Revision: A

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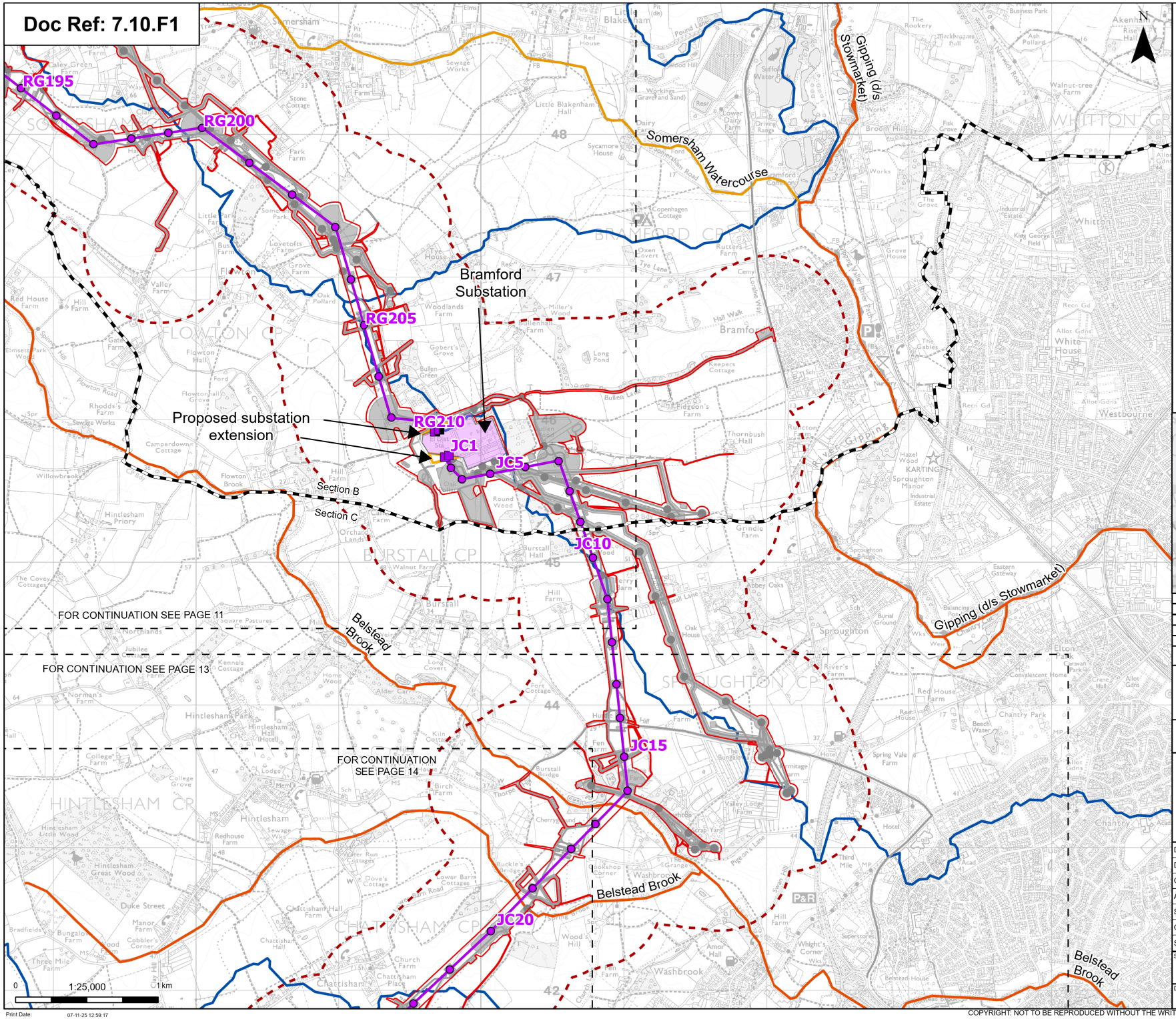


- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed low duty gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Bramford Substation
- Bramford Substation Extension
- Other temporary and permanent construction and operational works

Discipline specific constraints

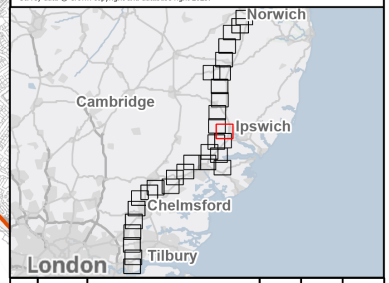
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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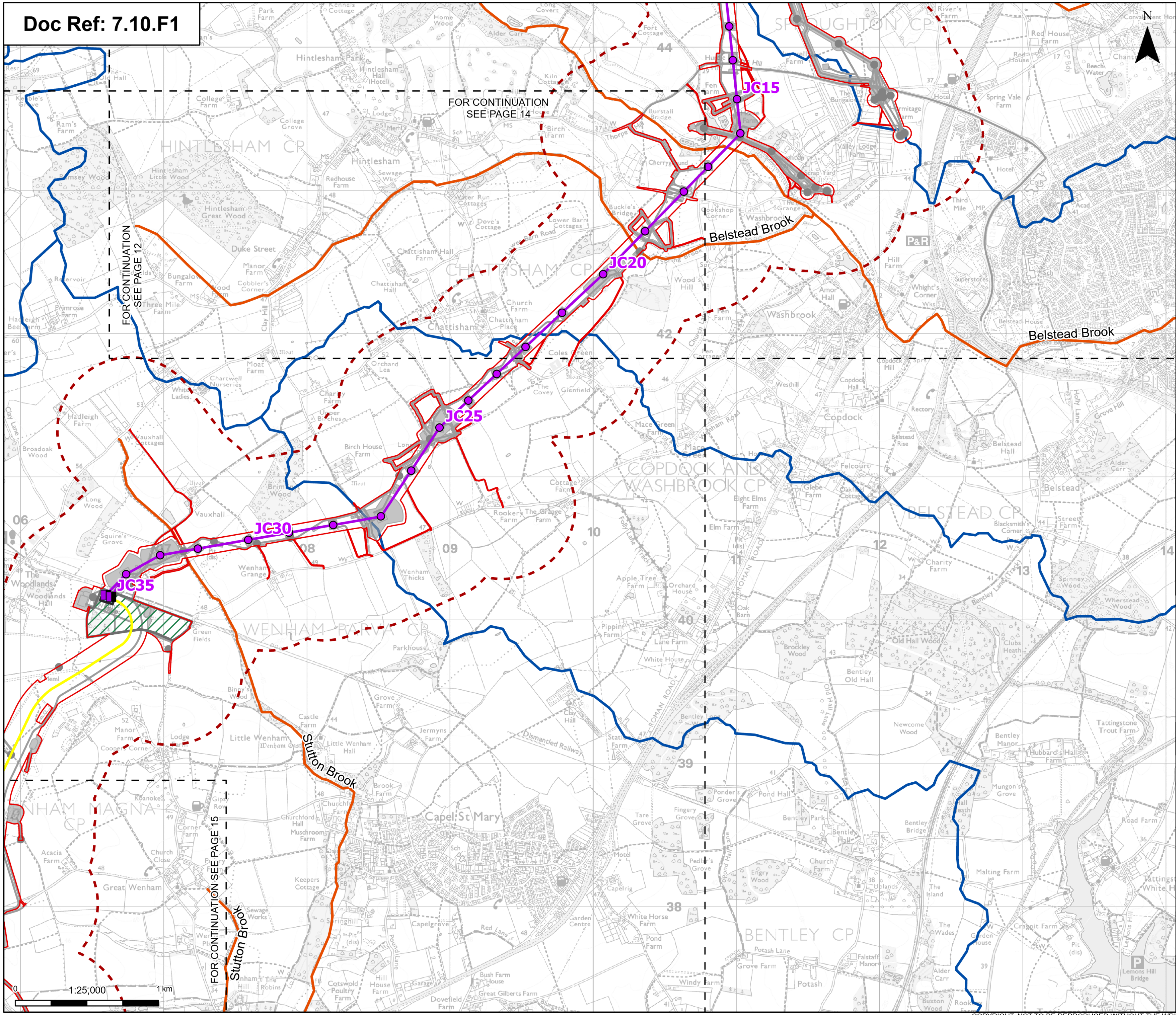
Doc Ref: 7.10.F1



Order limits
Sheet index cutline

Proposed project design details

Proposed full line tension gantry
Proposed standard lattice pylon location
Proposed overhead line alignment
Proposed underground cable alignment
Proposed cable sealing end compound (CSEC)
Environmental area
Other temporary and permanent construction and operational works

Discipline specific constraints

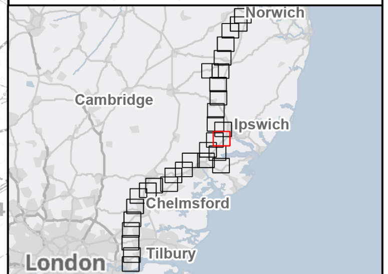
Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
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PROJECT: Norwich to Tilbury

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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status

Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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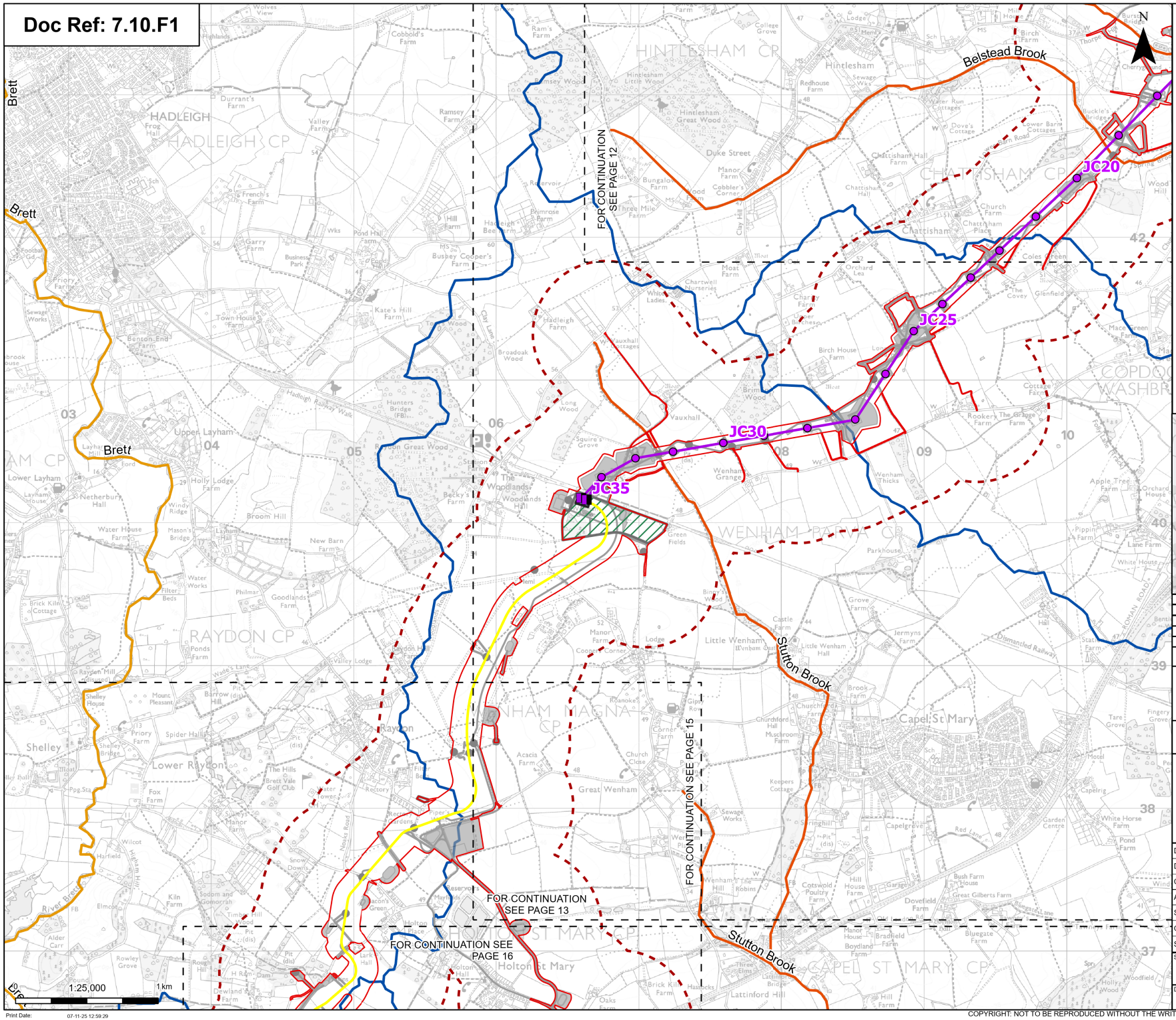

Order limits
Sheet index cutline

Proposed project design details

Proposed full line tension gantry
Proposed standard lattice pylon location
Proposed overhead line alignment
Proposed underground cable alignment
Proposed cable sealing end compound (CSEC)
Environmental area
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate
Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

Rev	Date	Description	Drawn	Check	Approv
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Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

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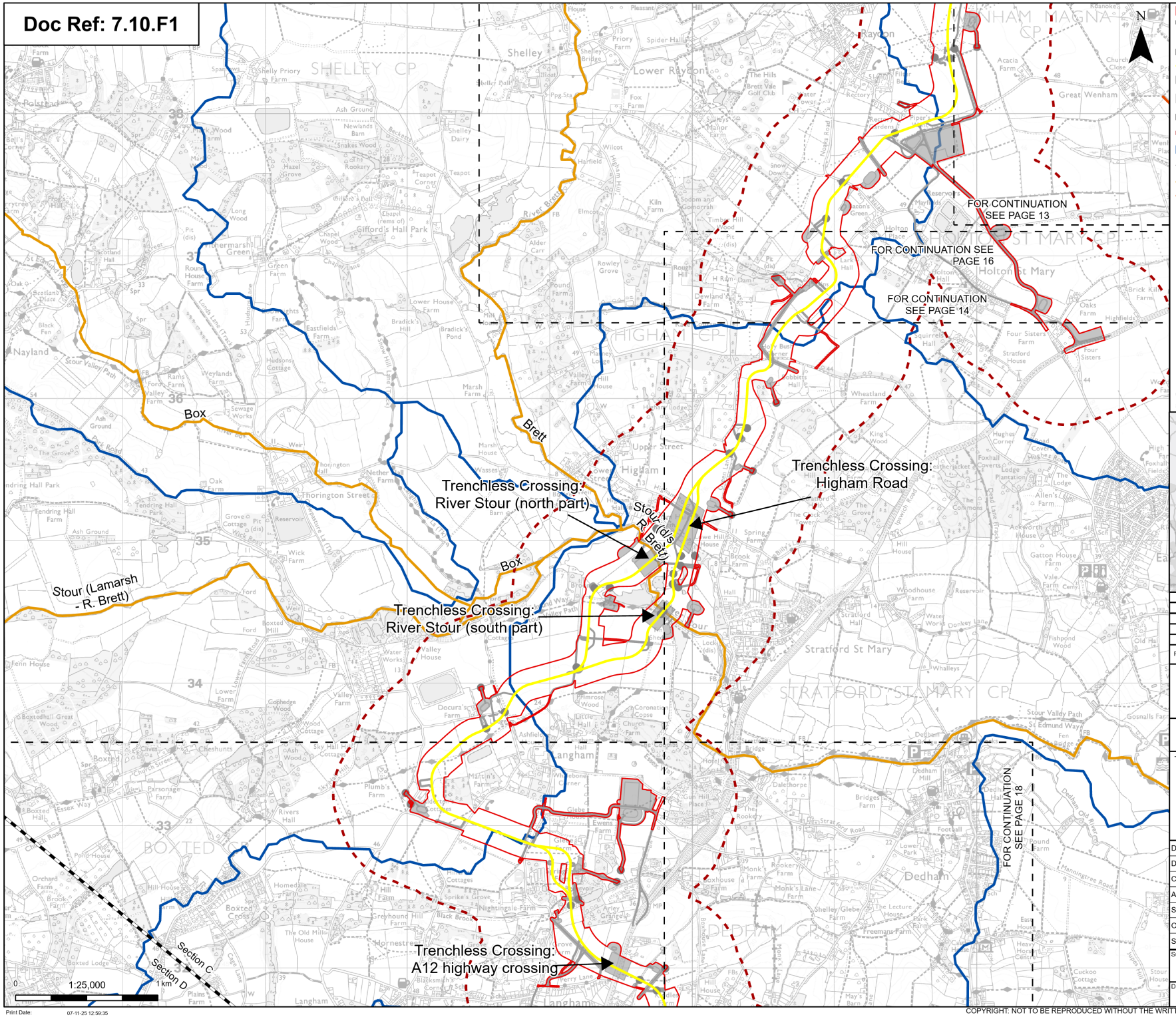
Revision: A

Print Date: 07-11-25 12:59:29

Doc Ref: 7.10.F1



Order limits
Sheet index cutline
Project section line

Proposed project design details

Proposed underground cable alignment
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

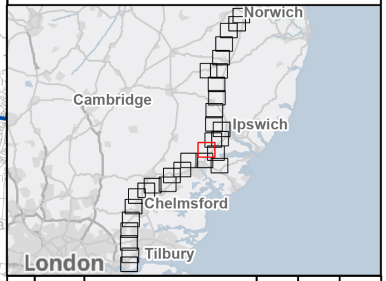
Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate
Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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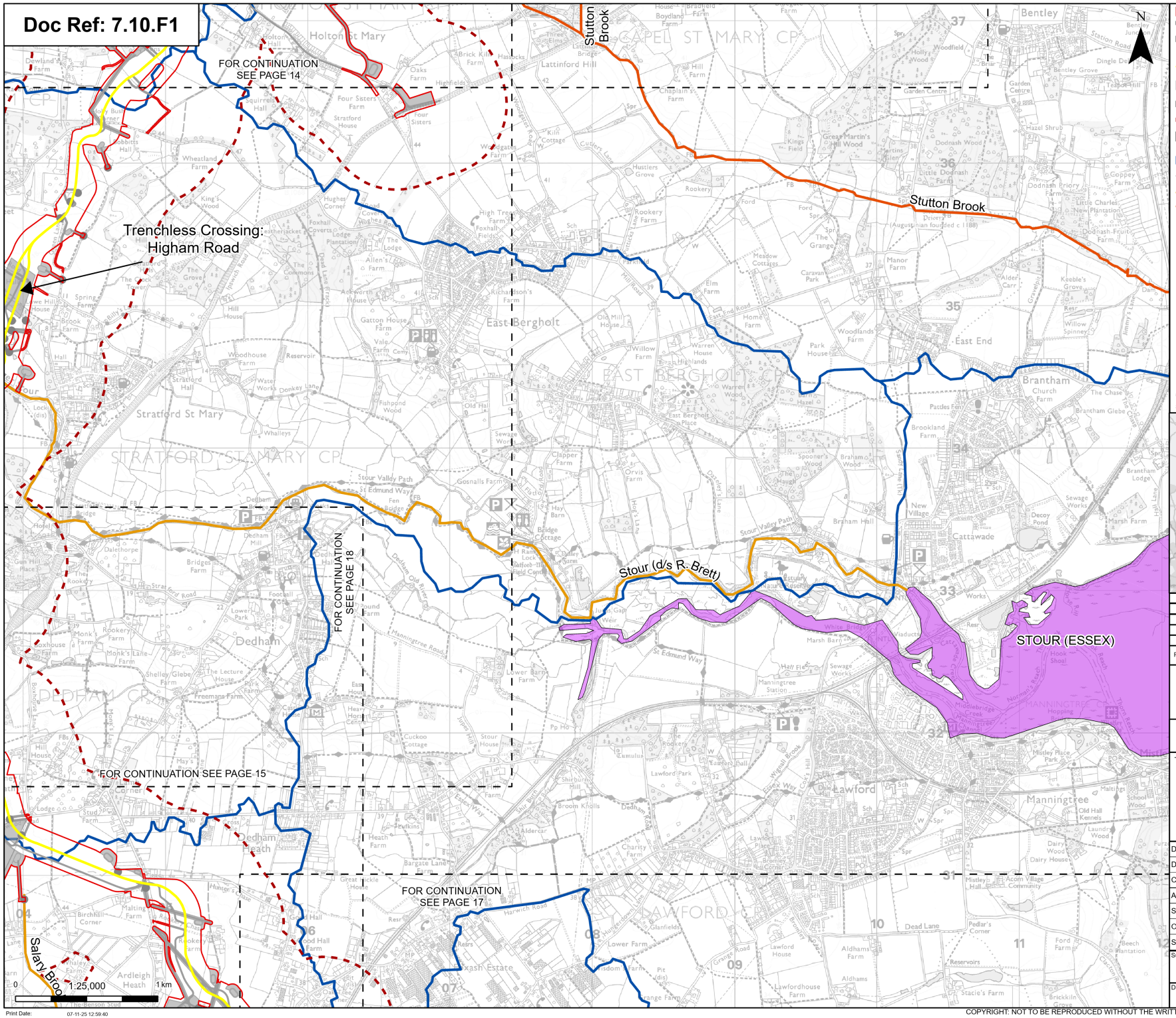
Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
Revision: A

Print Date: 07-11-25 12:59:35

Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline

Proposed project design details

- Proposed standard lattice pylon location
- Proposed underground cable alignment
- Other temporary and permanent construction and operational works

Discipline specific constraints

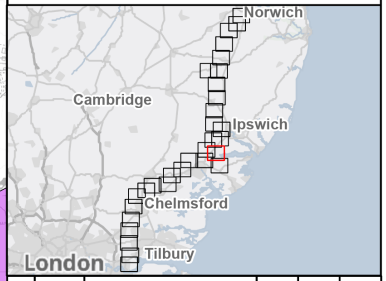
- Zone of Influence
- Water Framework Directive transitional and coastal water bodies
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
Revision: A

Print Date: 07-11-25 12:59:40

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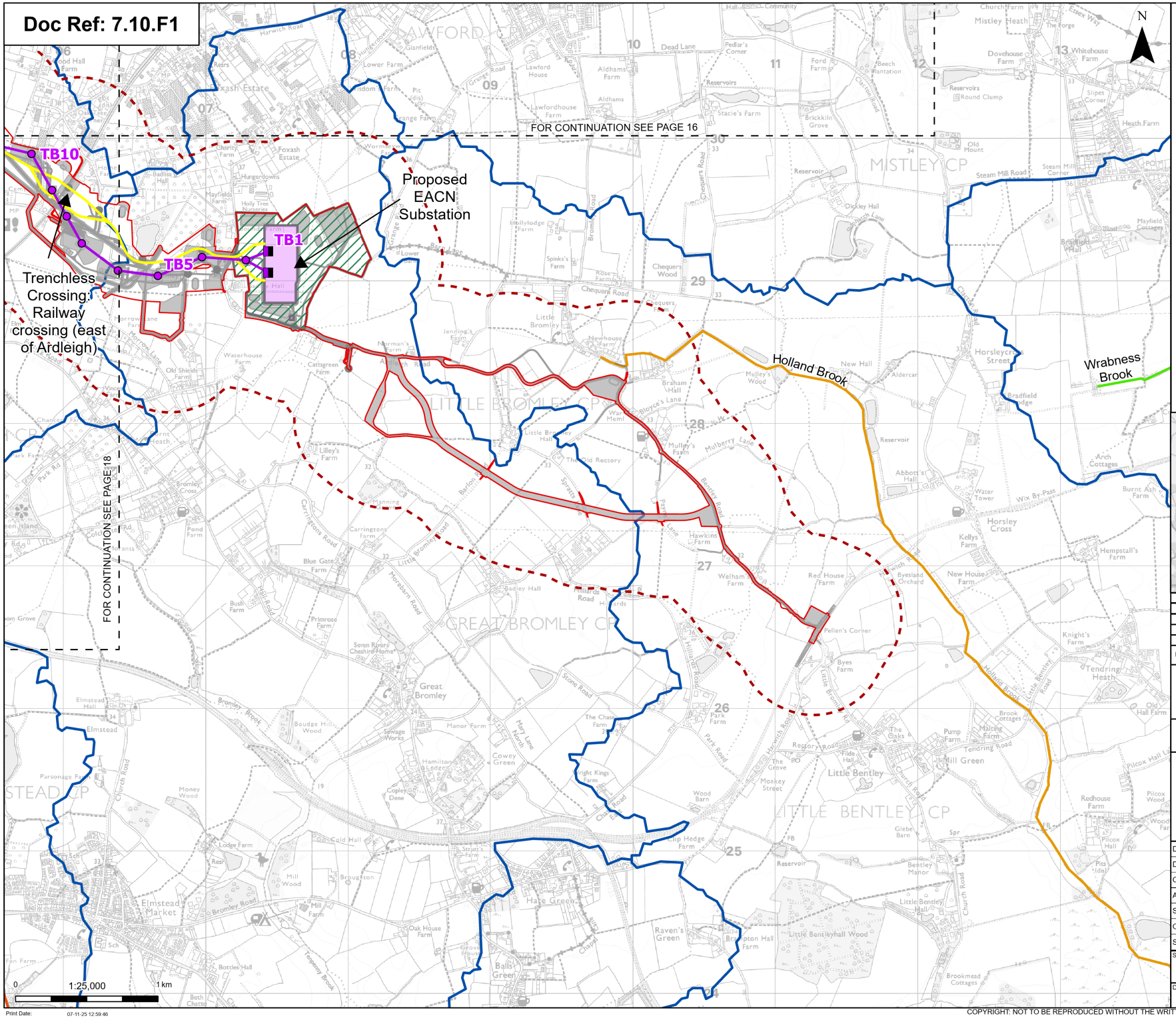


- Order limits
- Sheet index cutline

Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed DNO Substation
- Proposed East Anglia Connection Node Substation (EACN)
- Environmental area
- Other temporary and permanent construction and operational works

Discipline specific constraints

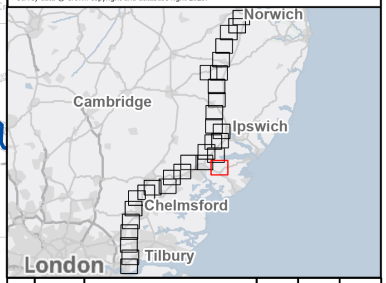
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Good
- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

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Revision: A

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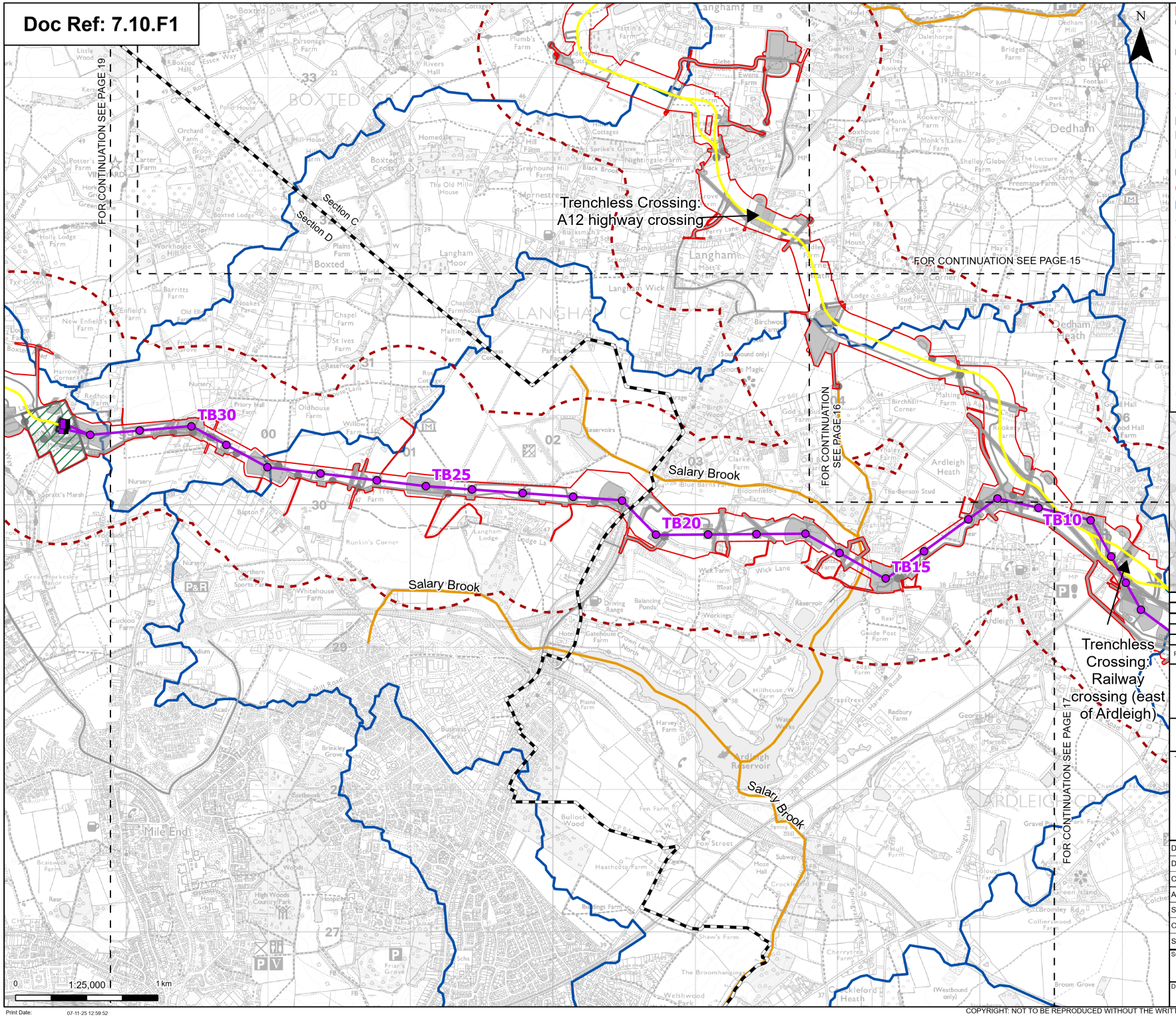
Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Other temporary and permanent construction and operational works

Discipline specific constraints

- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).

Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
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Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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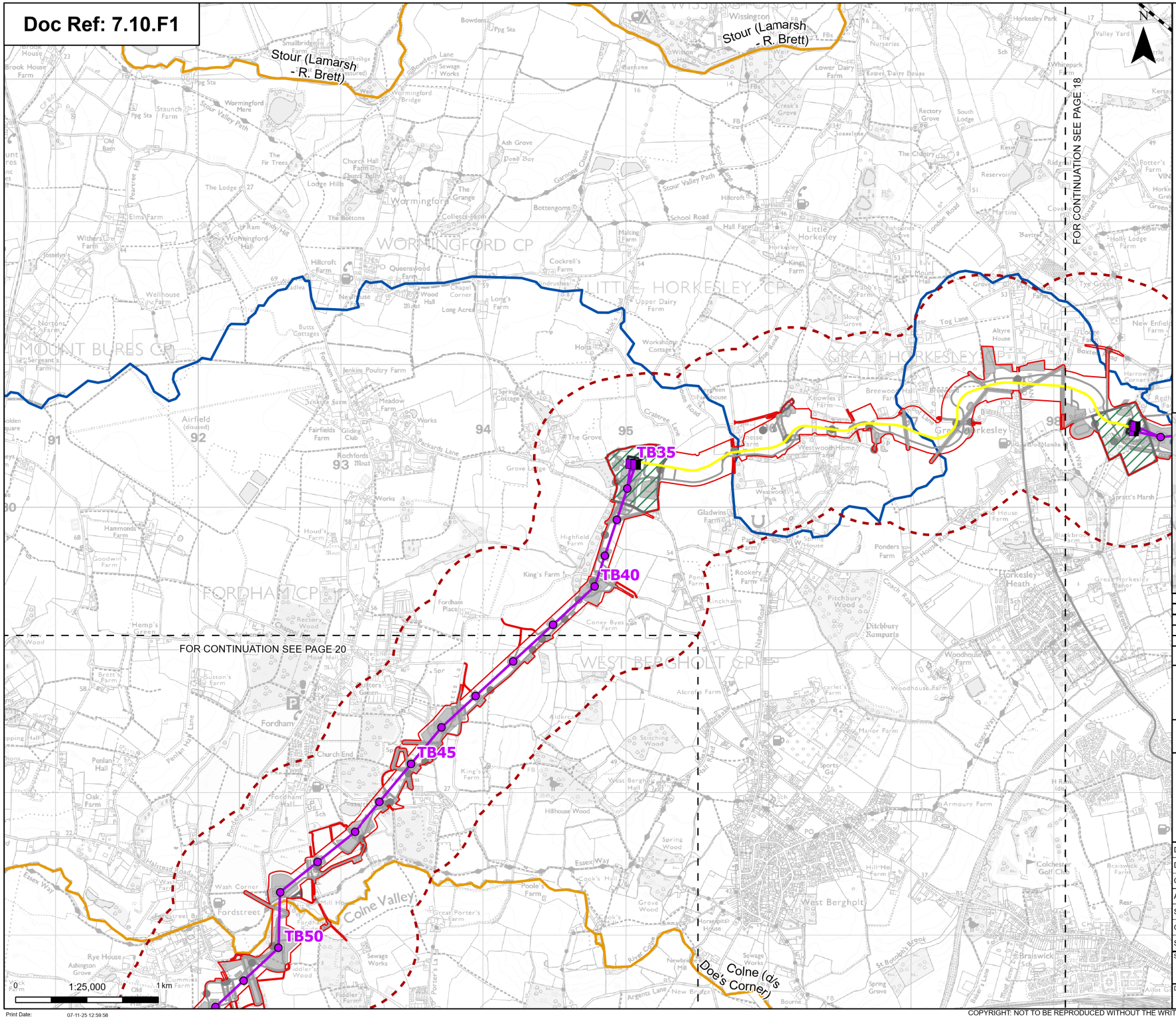


- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

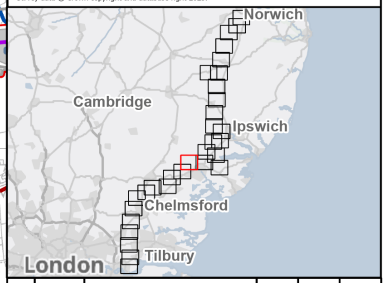
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
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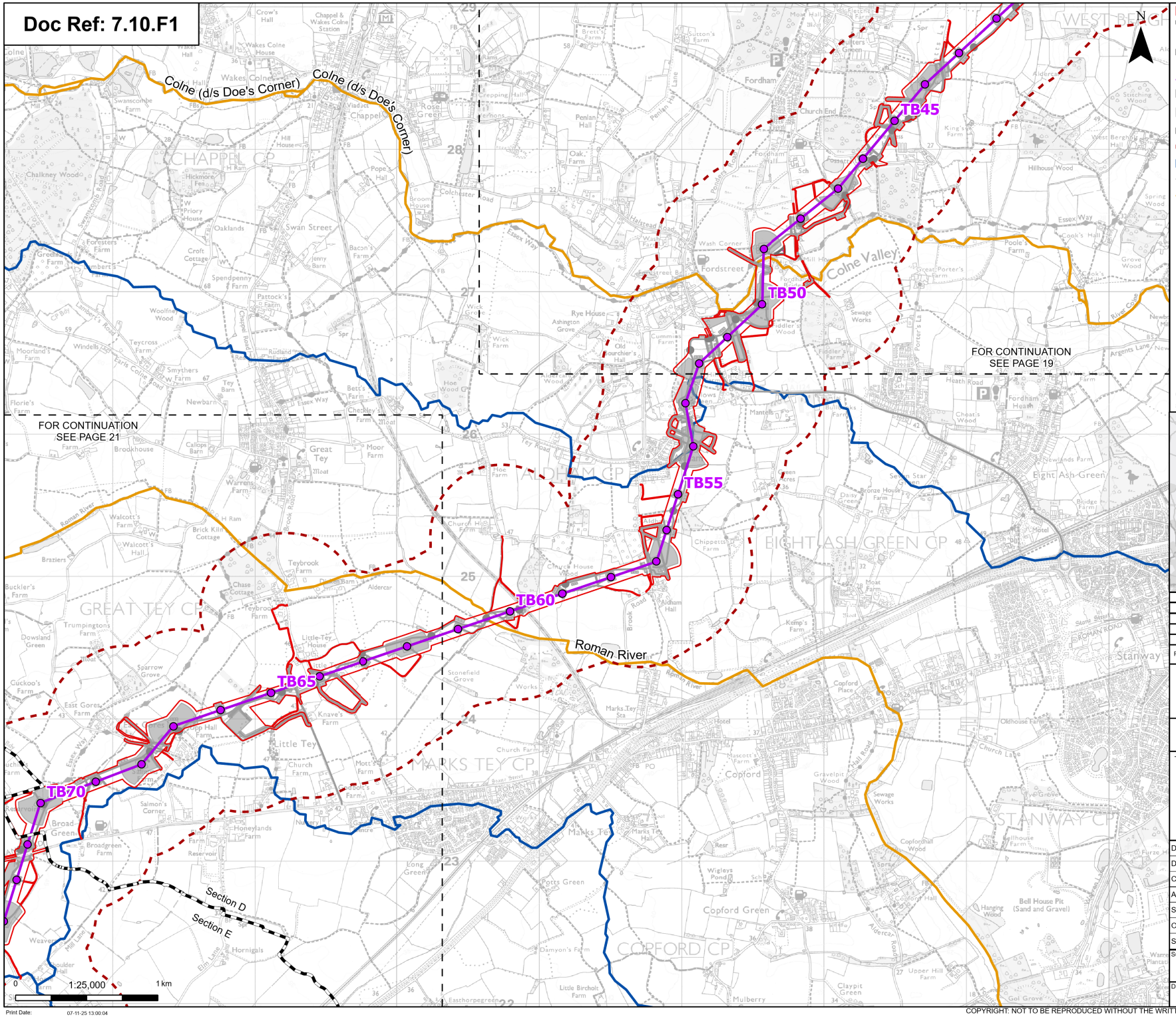
Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

Print Date: 07-11-25 12:59:58

Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

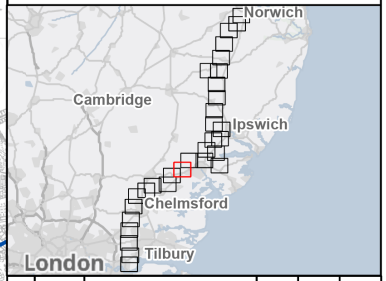
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status

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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

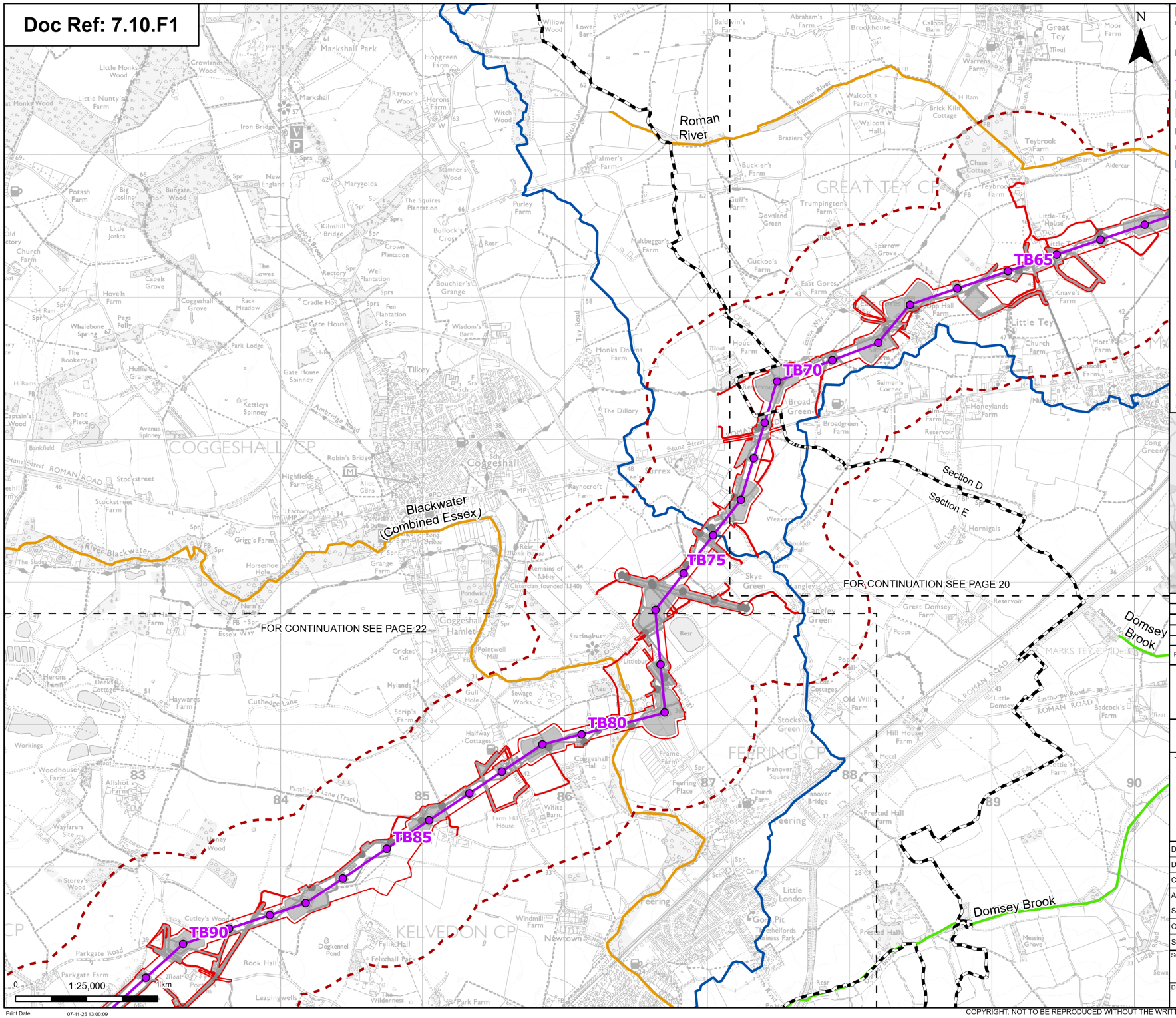
Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

Print Date: 07-11-25 13:00:04

Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

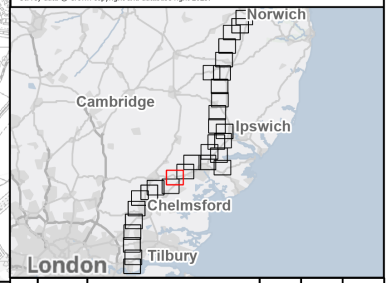
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Good
- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
Page 21 of 31

Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

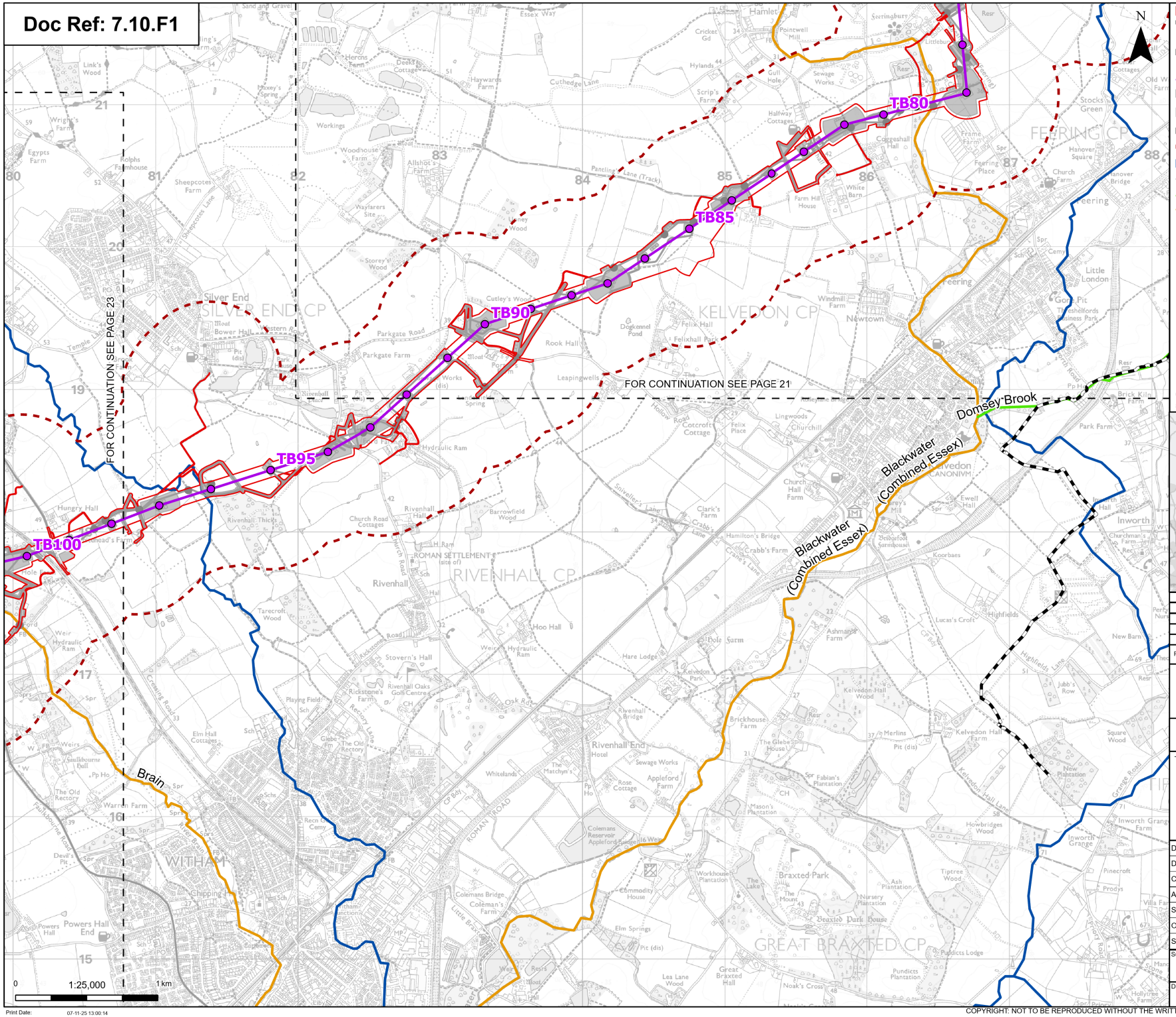
Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

Print Date: 07-11-25 13:00:09

Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

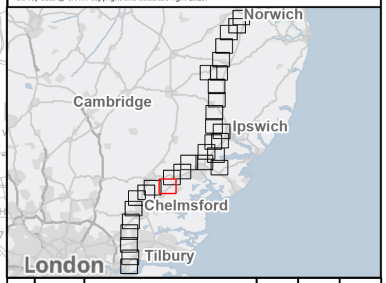
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Good
- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298

Revision: A

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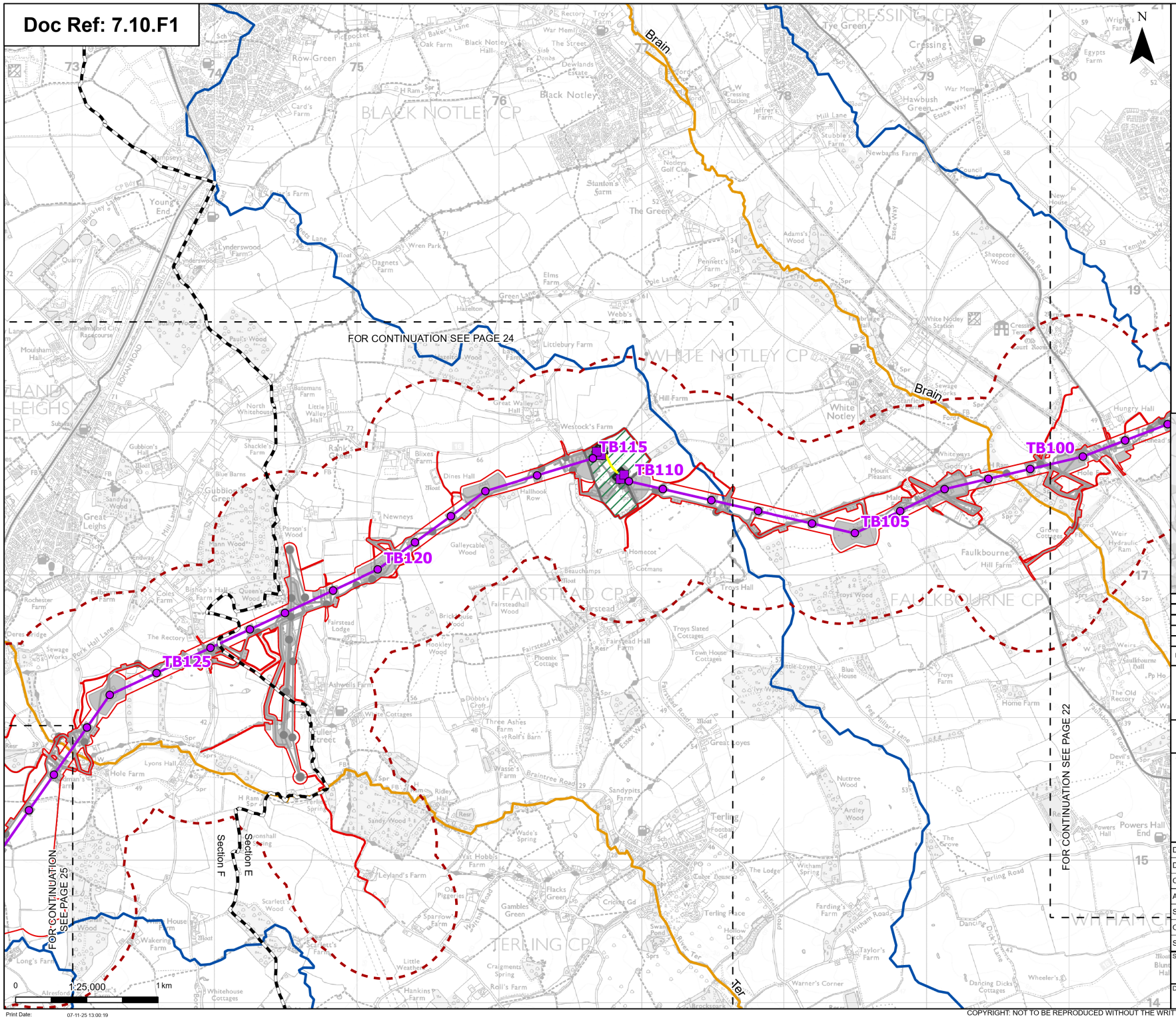
Doc Ref: 7.10.F1



- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed low duty gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Proposed underground cable alignment
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Other temporary and permanent construction and operational works

Discipline specific constraints

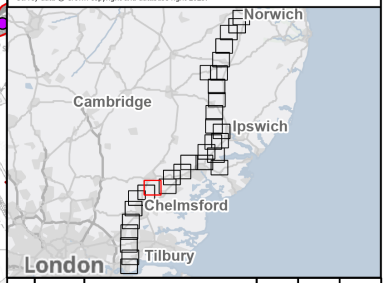
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

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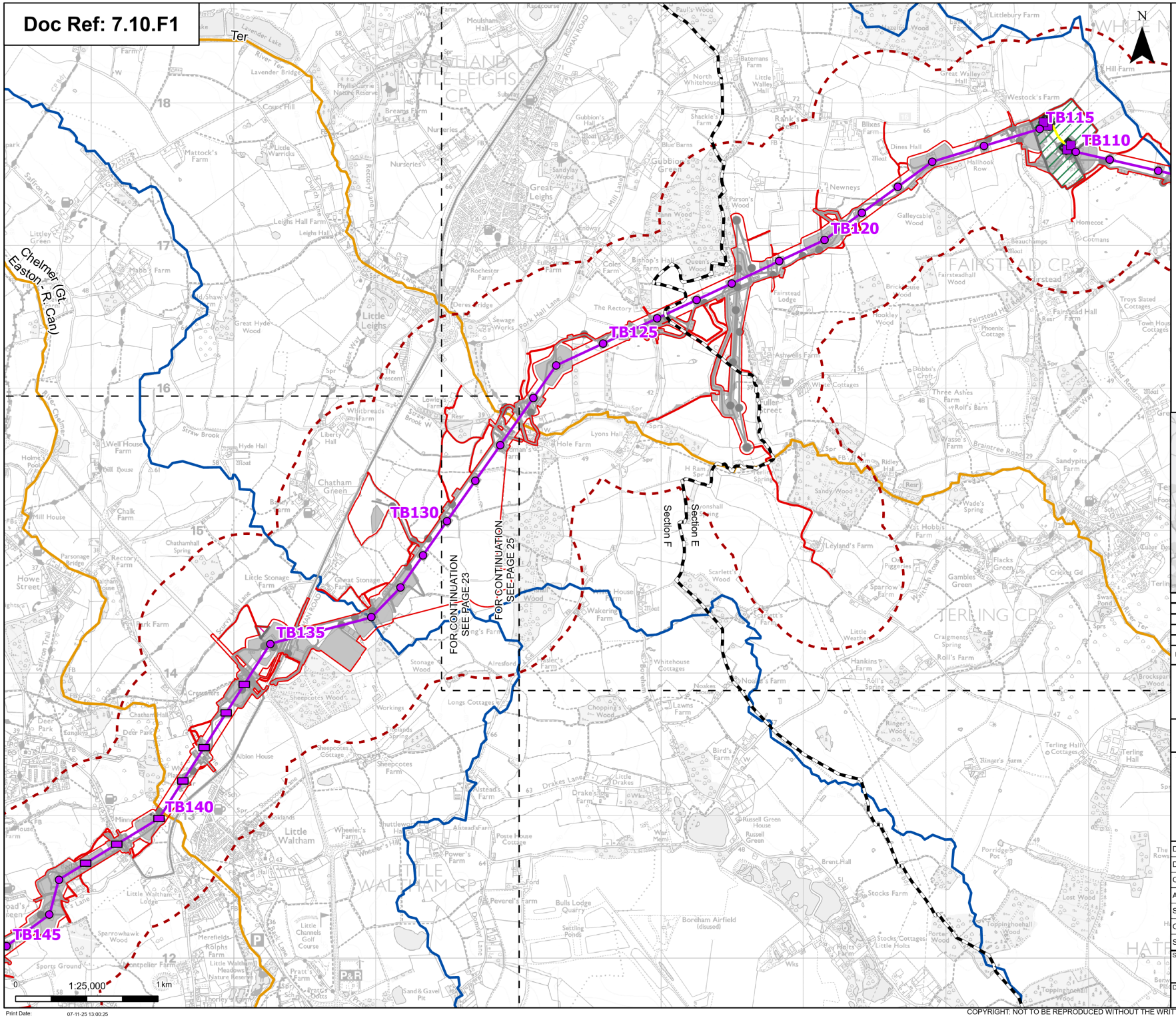
Revision: A

Print Date: 07-11-25 13:00:19

Doc Ref: 7.10.F1



Order limits
Sheet index cutline
Project section line

Proposed project design details

Proposed low duty gantry
Proposed low height pylon location
Proposed standard lattice pylon location
Proposed overhead line alignment
Proposed underground cable alignment
Proposed cable sealing end compound (CSEC)
Environmental area
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

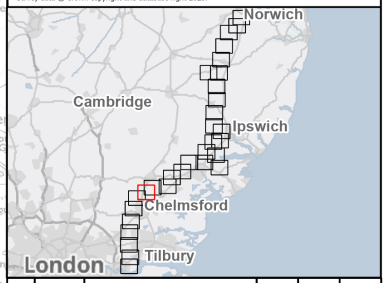
Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
Drawn	K. Fischer	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
Revision: A

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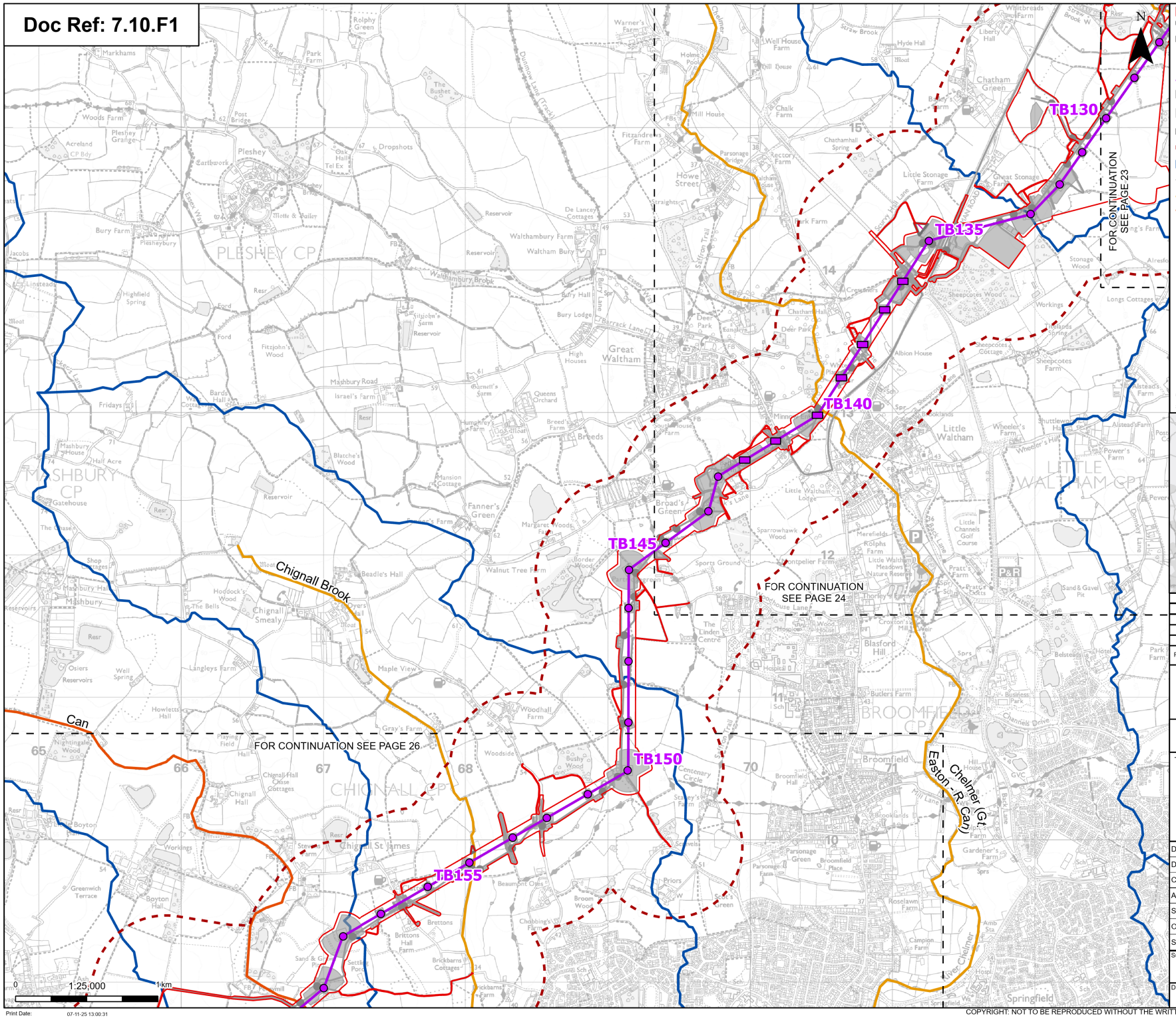


- Order limits
- Sheet index cutline

Proposed project design details

- Proposed low height pylon location
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

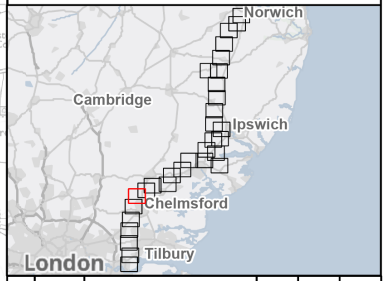
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description: Accepted as Concept Stage

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Revision: A

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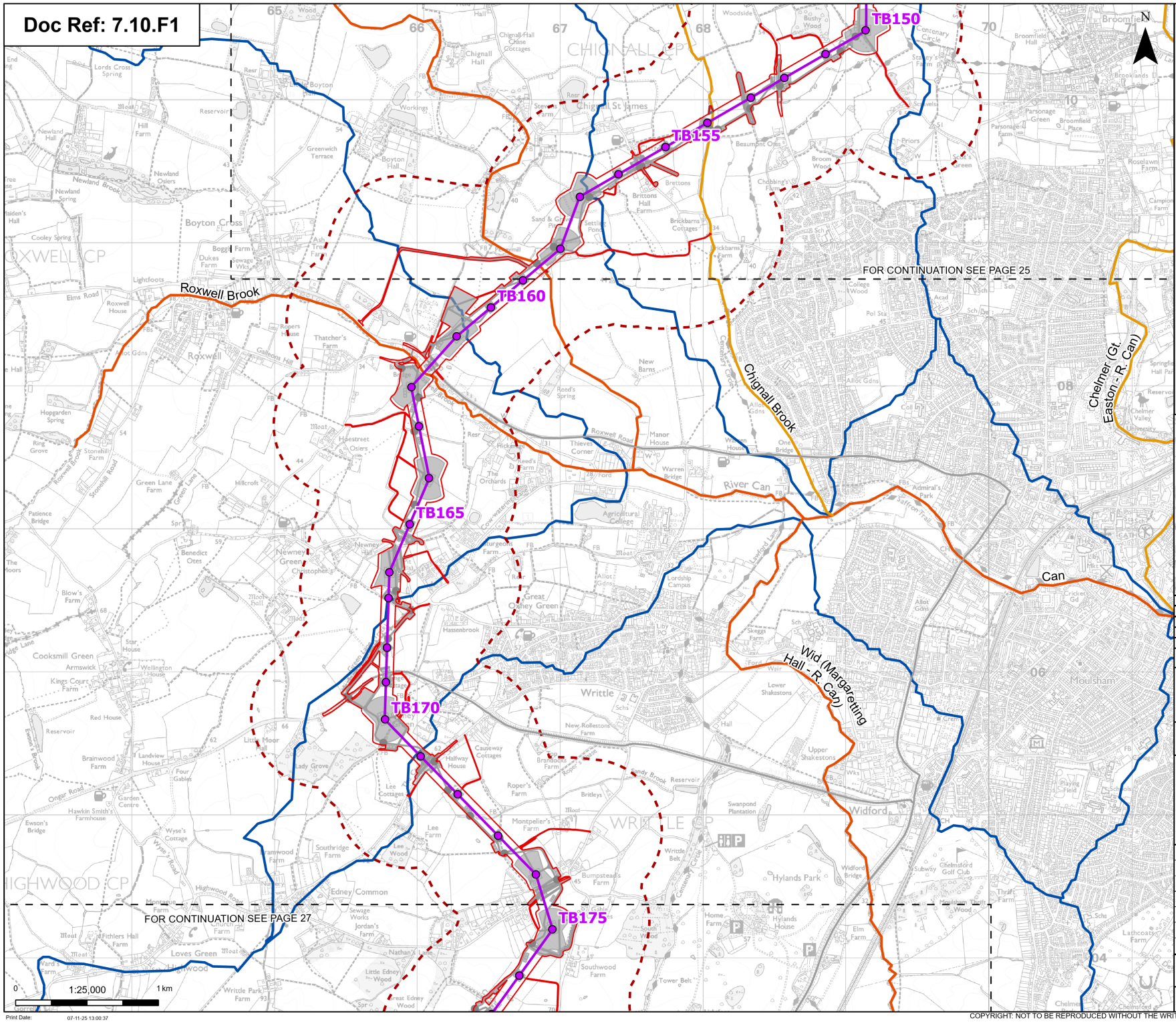


Order limits
Sheet index cutline

Proposed project design details

Proposed standard lattice pylon location
Proposed overhead line alignment
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

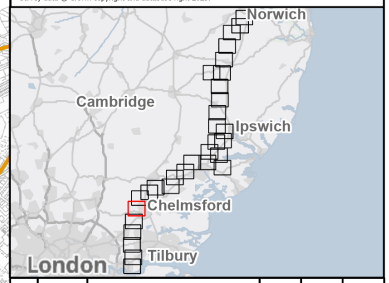
Zone of Influence
Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

Moderate
Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



Rev	Date	Description	Drawn	Check	Approv
A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

nationalgrid

PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
AFPF Regulation 5(2)(a)

Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Drawn	K. Fischer	Date	21 Aug 25
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Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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Accepted as Concept Stage

Drawing Number: 10059280-ARC-EGN-ZZ-DR-ZZ-00298
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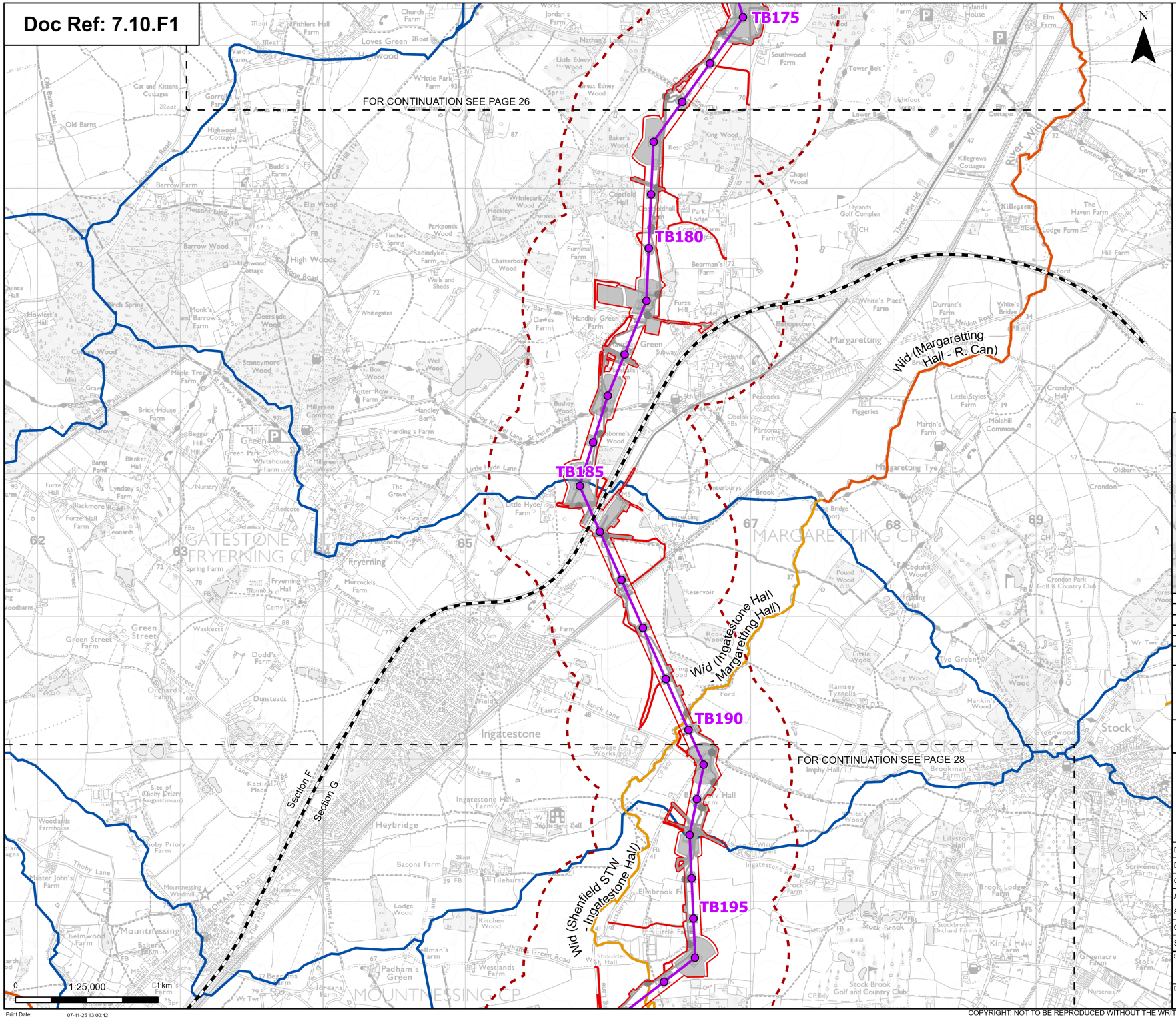


- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

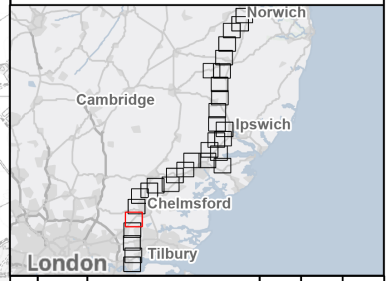
- Zone of Influence
- Water Framework Directive river waterbody catchments

Water Framework Directive waterbody ecological status

- Moderate
- Poor

Note: u/s and d/s within this figure refer to upstream and downstream respectively.

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2).



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A	Aug 2025	FOR DCO APPLICATION	KF	AF	KB

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PROJECT: Norwich to Tilbury

Planning Inspectorate App Number: EN020027
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Title:

Figure 1 - Water Framework Directive - Water Framework Surface Waterbody Status
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Designed	L. Driscoll	Date	21 Aug 25
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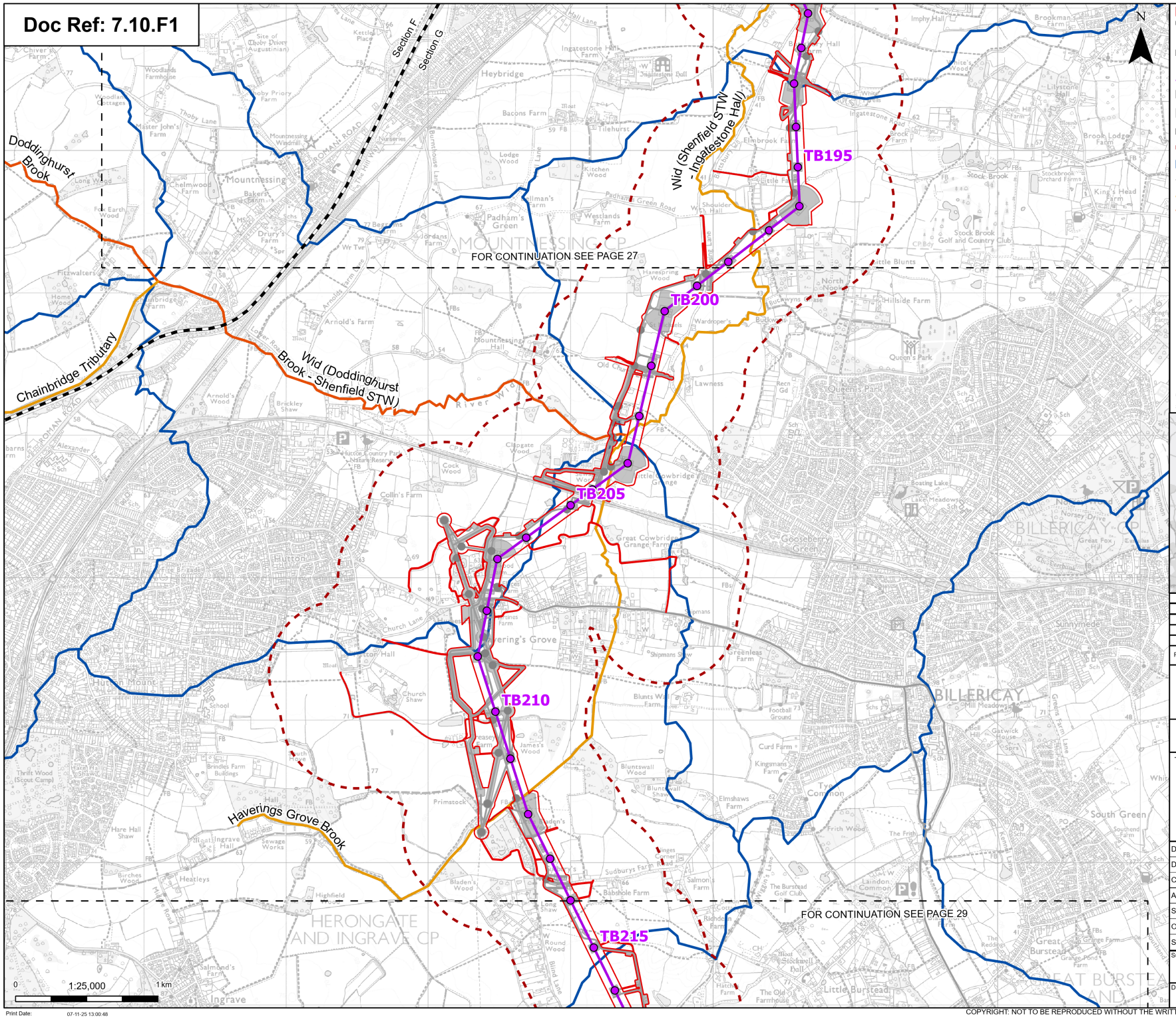

- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

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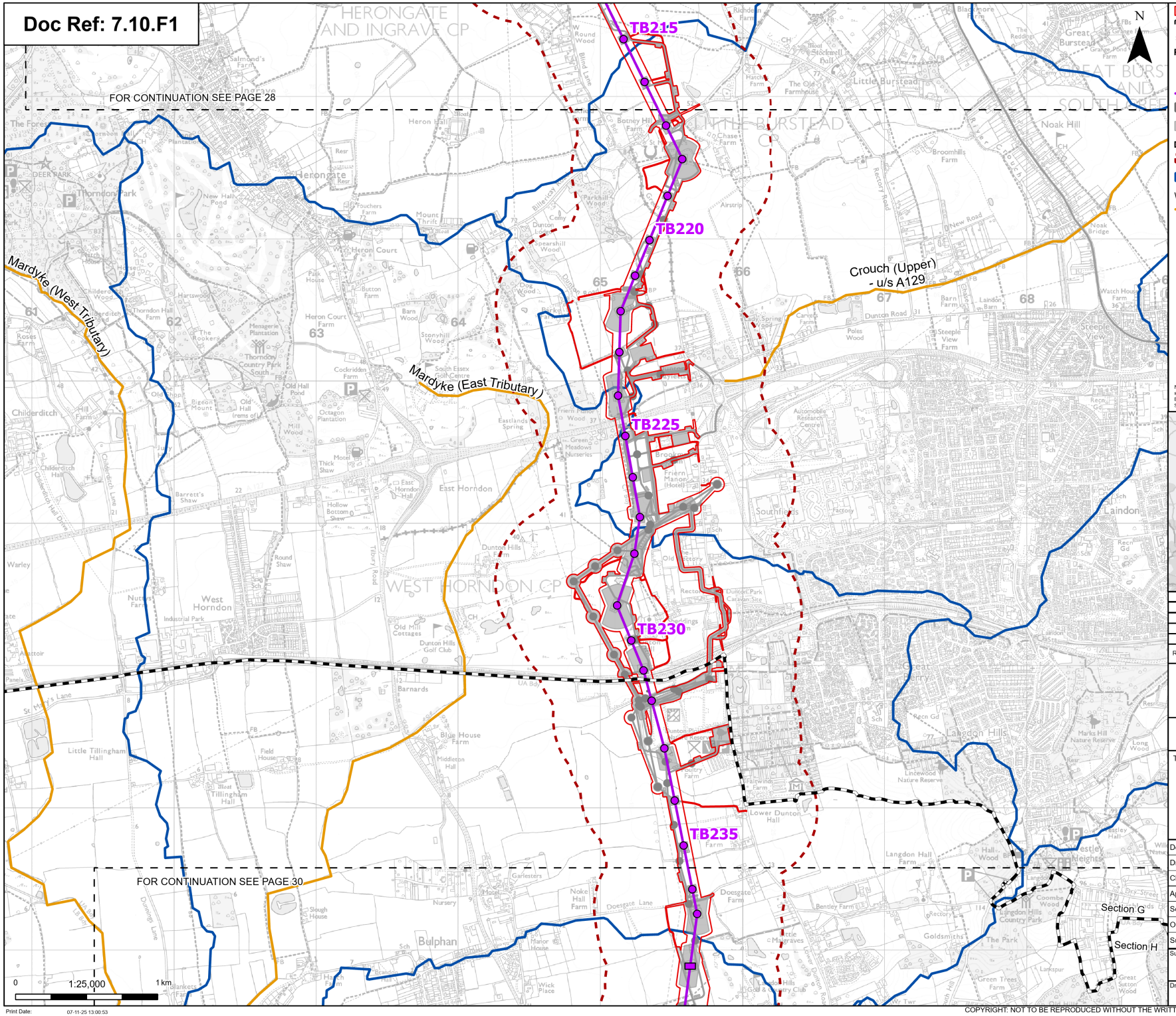

Order limits
Sheet index cutline
Project section line

Proposed project design details

Proposed low height pylon location
Proposed standard lattice pylon location
Proposed overhead line alignment
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints

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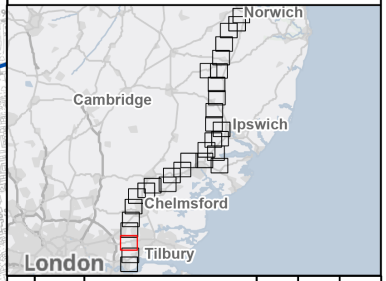

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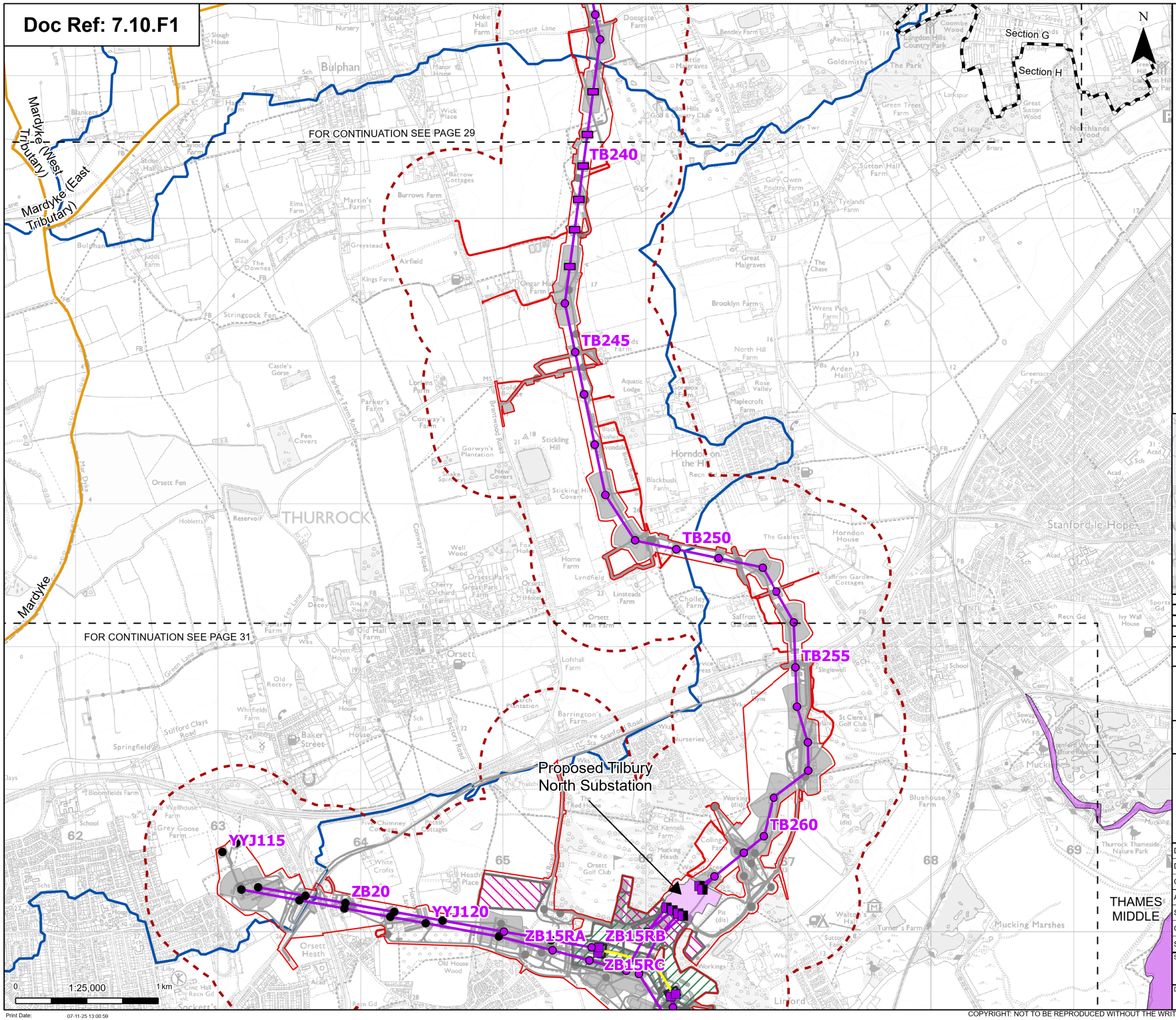

- Order limits
- Sheet index cutline
- Project section line

Proposed project design details

- Proposed full line tension gantry
- Proposed low duty gantry
- Proposed low height pylon location
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- Proposed Tilbury North Substation
- Proposed cable sealing end compound (CSEC)
- Environmental area
- Environmental mitigation
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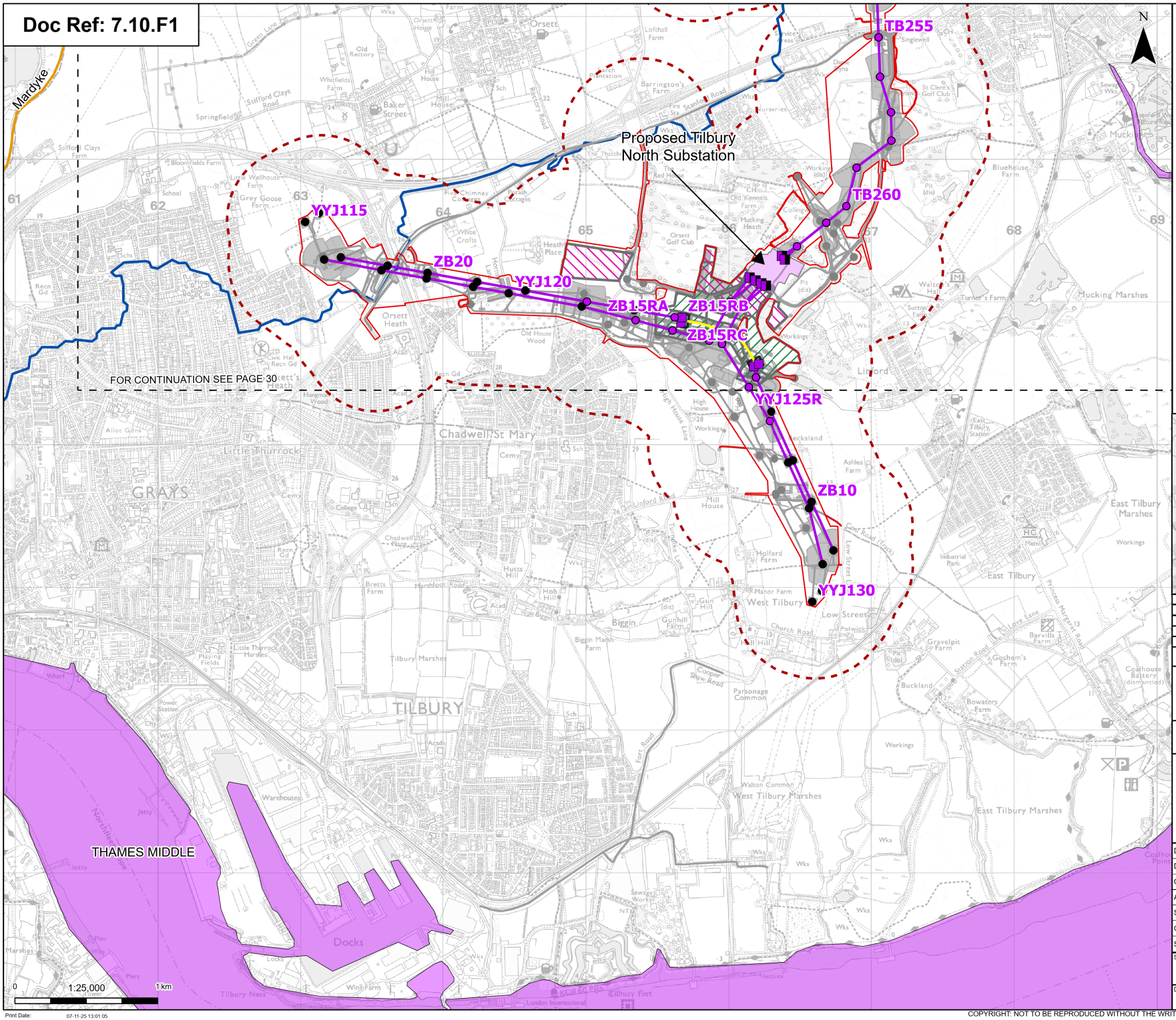

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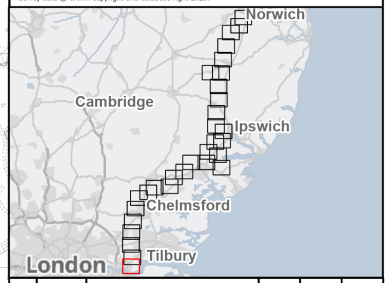

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Appendix B. Summary of Embedded and Standard Measures

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Appendix B
Summary of Embedded and Standard Mitigation Measures

Table B.1 Mitigation measures / environmental commitments relevant to the Water Framework Directive (WFD) taken from the CoCP

Ref	Standard Mitigation Measure	Relevance to WFD
W01	All qualifying works within and in proximity to main rivers and flood defences will be in accordance with a method approved under environmental permits issued by the Environment Agency under The Environmental Permitting (England and Wales) Regulations 2016. Qualifying works to ordinary watercourses will accord with the protective provisions of the Development Consent Order (DCO) for the benefit of the Lead Local Flood Authorities (LLFAs).	The Project crosses a number of WFD surface waterbodies and other watercourses, and this commitment would safeguard the water quality, flow regime and hydromorphology of the waterbodies.
W02	For open cut watercourse crossings and installation of vehicle crossing points, mitigation measures will include but not be limited to: • Where practicable, reducing the working width for open cut crossings of a main or ordinary watercourse whilst still providing safe working and reinstating the riparian vegetation and natural bed of (where practicable) the watercourse, using the material removed when appropriate on completion of the works and compacting as necessary • Installation of a pollution boom downstream of open cut works • The use and maintenance of temporary lagoons, tanks, bunds, silt fences or silt screens as required • Have spill kits and straw bales readily available at all crossing points for downstream emergency use in the event of a pollution incident • The use of all static plant such as pumps in appropriately sized spill trays • Prevent refuelling of any plant or vehicle within 15 m of any watercourse • Prevent storing of soil stockpiles within 15 m of any watercourse or drain where practicable • Inspect all plant prior to work adjacent to watercourses for leaks of fuel or hydraulic fluids	The Project crosses a number of watercourses designated as WFD surface waterbodies and several other watercourses that are not designated as WFD waterbodies. No WFD waterbodies would be crossed using open cut techniques for cable installation. These commitments would maintain floodplain connectivity, safeguard water quality and reduce impacts on hydromorphology during construction for other watercourses, that drain to WFD surface waterbodies.

Ref	Standard Mitigation Measure	Relevance to WFD
	• Reinstating the riparian vegetation and natural bed of the watercourse, using appropriately sized material of similar composition to that removed. As far as practically possible gravel will be retained in-channel. Where practicable, reinstated material will aim to closely match what is removed, particularly gravel, at between 15 and 40 mm in size to ensure suitability for fish spawning.	
W03	Riverbank and in-channel vegetation will be retained where not directly affected by installation works. Culverts in waterbodies will either preserve the natural bed or be box culverts with inverts sunk a minimum of 300 mm below the hard bed of the watercourse with natural/existing bed material placed across the inside of the culvert to lift the level up to meet that of the existing. New culverts will be as short as practicable and sized to maintain the current land drainage regime and to avoid narrowing of natural channel widths. Temporary culverts will be sized to convey flows generated by upstream catchments to maintain the current land drainage regime and during culvert installation, downstream flows would be maintained.	These measures would reduce impacts on the hydromorphology and biological quality elements of watercourses and ponds affected by construction works. No culverting of WFD waterbodies is proposed.
W06	Where a main river is crossed by a trenchless crossing, the cables will be laid at least 1 m below the hard bed level of the river and will remain at or below this level for not less than 3 m from the brink of the riverbank. Marker posts shall also be positioned on each bank of the river to indicate the location of the under-crossing and the nature of the works. The Project proposes the following trenchless crossings (as detailed in Table 4.9 within ES Chapter 4: Project Description (document reference 6.4)): • Section C: Higham Road • Section C: River Stour (north part), River Stour (south part) • Section C: A12 highway crossing • Section C: Railway crossing (east of Ardleigh).	This would reduce the risk of future exposure of the buried cables and avoid impacts on the physical channel form and flow regime of the rivers. This crossing technique would also reduce temporary water quality effects and impacts on aquatic species (physico-chemical and biological quality elements).
W07	Where construction activities take place in Flood Zone 3, temporary construction compounds, laydown areas and other work sites will be laid out in accordance with the Sequential Test and incorporate flood resilience measures where necessary. There would be no land raising and storage of construction equipment and materials will be done in such a way as to avoid forming barriers to floodplain flows. Material storage areas will be located outside of the fluvial floodplain where practicable.	This would reduce the risk of impediment of floodplain flows during large flood events and limit the impact of any severe events, both in terms of disruption to construction and potential environmental impact.

Ref	Standard Mitigation Measure	Relevance to WFD
W08	Measures to manage surface water runoff from operational above ground infrastructure and to maintain existing overland flow routes, for example the proposed box culverts at Tilbury North Substation and the eastern of the two CSE compounds, will be developed liaising with the LLFAs. Such measures will be managed in accordance with the requirements and standards of the relevant LLFA and maintained for the Project's lifetime. Surface water runoff will be captured using sustainable drainage techniques that will be designed to allow for climate change resilience and with consideration of exceedance flow routes.	This would reduce the risk of groundwater and surface water flows being impacted by above ground features. Treatment of runoff provided by drainage features would reduce impacts on water quality.
W10	Where construction haul roads pass within or cross watercourses and/or their floodplains and key overland flow routes, the haul road design will include flood mitigation/drainage to allow for the flow of water within the floodplain during flood events up to and including the 1% Annual Exceedance Probability event (i.e., ducting). The design of the haul roads themselves will include some resilience to flooding for example, incorporating suitable geo-textiles to stabilise the road surfacing, as well as allowing water to flow within the floodplain. Suitable materials would be used to surface the haul roads. In some cases, bespoke construction methodologies may be used based on site constraints and ground conditions.	This would reduce the risk of surface water flows being impacted by haul roads and reduce the potential for impacts on the riparian zone (including on watercourse-floodplain connectivity).
W12	For access roads and haul roads, the Project requires the crossing of multiple ditches, drains and watercourses. Large or sensitive watercourses, for example those designated as main rivers, and those with Water Framework Directive (WFD) status, would be crossed using clear span bridges or suitably assessed and approved alternatives. Soffit heights at clear span crossings would be set on a site-specific basis, following more detailed survey and design work by the appointed Main Works Contractor(s). On watercourses with a high or good WFD status for invertebrates, soffits will be set as high as is practicable above the Q95 water level, accounting for site specific constraints and to reduce impacts to ecology.	This commitment would reduce adverse impacts on hydromorphology during construction.
W13	Surface water drainage features, based on Sustainable Drainage System (SuDS) techniques, will be installed at temporary compound sites and laydown areas during construction. These areas will be reinstated after completion of the temporary works, as agreed with the landowner. Access roads and haul roads, as well as areas where impermeable material will be installed where heavy equipment would be used, will also	This would reduce the risk of groundwater and surface water flows being impacted by above ground features. Treatment of runoff

Ref	Standard Mitigation Measure	Relevance to WFD
	have suitable drainage provisions via appropriate SuDS that will provide attenuation and treatment of runoff.	provided by drainage features would reduce impacts on water quality.
W14	Once the Project has been constructed, the working areas will be removed. Any stripped topsoil will be reinstated, and the site will be returned to its former use, subject to any planting restrictions or agreements with landowners. Temporary bridges and culverts (associated with the construction haul routes) will only be retained by exception e.g. if a new temporary structure has replaced an existing one in poor repair. When these locations are confirmed, crossings would reflect their permanence e.g. sizing to accommodate climate change allowance. Replacement drainage schemes will be installed where appropriate. A specialised drainage contractor(s) will review the drainage designs and the relevant LLFA will be consulted on proposals (where it is not simply a replacement of the existing drainage run). The specialist contractor(s) will provide advice to National Grid and the Main Works Contractor(s) during all relevant construction and reinstatement activities. Permanent records of the land drainage locations will be made and passed to the landowners/occupiers.	Reinstating the land to its previous condition would reduce the risk of long-term impacts on waterbodies.
W15	Temporary and permanent drainage outfalls proposed will comprise only a small diameter (less than 300 mm) buried pipe and a small outfall structure set into the bank of the watercourse. A wide swathe is included within the Order Limits to allow flexibility to aid the selection of an outfall location and pipe alignment that is technically feasible and one that minimises effects on vegetation loss. Works will minimise effects where possible.	These commitments would minimise effects on watercourses and on vegetation loss.
W16	The water supply needs of the Project during construction will be sourced either from mains water supply or in remote locations, where this option may not be available, water will be tankered in. Water use would be monitored and reported and measures to encourage efficient water use would be put in place. Grey water generated from welfare facilities will be discharged to the public sewer, or where this is not practicable, collected and tankered off site to a licensed disposal facility.	This commitment describes the controls on grey water disposal to safeguard water environment receptors.
W20	Pylons would be situated a minimum of 8 m from the top of bank of any designated Main River and a minimum of 3.5 m from the top of bank of any ordinary watercourses.	This commitment would minimise effects on watercourses.
GG17	Any activity carried out or equipment located within a temporary construction compound that may produce a noticeable nuisance, including but not limited to dust, noise, vibration,	This would reduce temporary water quality effects and impacts on

Ref	Standard Mitigation Measure	Relevance to WFD
	and lighting, will be located away from sensitive receptors such as residential properties or ecological sites where reasonably practicable (see Appendix B: Site Waste Management Plan, Appendix D: Dust Management Plan and Appendix F: Noise and Vibration Management Plan of the Outline CoCP (document reference 7.2) for further details).	aquatic species (physico-chemical and biological quality elements).
GG21	Fuels, oils, and chemicals will be stored responsibly, away from sensitive water receptors (and trees). Where practicable, they will be stored over 15 m from watercourses, ponds, and groundwater dependent terrestrial ecosystems. Where it is not practicable to maintain a distance greater than 15 m, additional measures will be identified. All refuelling, oiling, and greasing of construction plant and equipment will take place above drip trays, over 15 m away from any watercourse, and also away from drains as far as is reasonably practicable. Vehicles and plant will not be left unattended during refuelling. Appropriate spill kits will be made readily accessible for these activities and a maintenance and inspection regime will be in place to ensure spill kits are maintained with appropriate stock. Potentially hazardous materials used during construction will be safely and securely stored including use of secondary containment where appropriate. Stored flammable liquids will be protected either by double-walled tanks or stored in a bunded area with a capacity of 110% of the maximum stored volume. Spill kits will be located nearby.	These commitments would reduce the risk of pollution, safeguarding water quality during construction (physico-chemical and biological quality elements).
GG22	The Main Works Contractor(s) will prepare a Surface Water Management Plan to inform discharge of the DCO Requirement. The Surface Water Management Plan will demonstrate how runoff across the site will be controlled to prevent any off-site increases in flood risk and/or pollution, including consideration of exceedance flow routes. A variety of methods including header drains, buffer zones around watercourses, on-site ditches, silt traps and bunding, shall be adopted as specified in the Surface Water Management Plan, and where identified as necessary during inspections, audits and in response to incidents. Construction drainage measures will be developed liaising with the Lead Local Flood Authorities (LLFAs), with ongoing dialogue during implementation of the measures. There will be no intentional discharge of site runoff to ditches, watercourses, drains or sewers without appropriate treatment and agreement of the appropriate authority (except in the case of an emergency).	This commitment would reduce the risk of pollution from silted runoff during construction and avoid changes to runoff rates/patterns safeguarding water quality (physico-chemical and biological quality elements).
GG23	Wash down of vehicles and equipment will take place in designated areas within temporary construction compounds. Wash water will be collected and prevented from passing untreated into watercourses and groundwater and any proposed discharges	This commitment would reduce the risk of pollution, safeguarding water

Ref	Standard Mitigation Measure	Relevance to WFD
	would be made in accordance with the discharge rate and quality conditions of suitable environmental permits, where required. Appropriate measures will include use of sediment traps.	quality during construction (physico-chemical and biological quality elements).
GG24	Earthwork mounds and stockpiled soil will be protected in line with the Outline Soil Resource Plan (Appendix C of the Outline CoCP (document reference 7.2)) (to avoid dust generation) by covering, seeding, or using water suppression where appropriate (to be determined by the soil type and the likely storage duration).	These commitments would reduce the risk of pollution from silted runoff during construction and avoid changes to runoff rates/patterns safeguarding water quality (physico-chemical and biological quality elements).
GG27	An Outline Site Waste Management Plan (SWMP) (see Appendix B of the Outline CoCP (document reference 7.2)) has been prepared. The Main Works Contractor(s) will prepare a final SWMP which will be maintained and monitored throughout the construction phase and oversee that any sub-contractor(s) adhere to the SWMP. The current Outline SWMP sets out, in an auditable manner, how waste will be reduced, reused, managed, and disposed of in accordance with the waste hierarchy. Dedicated areas have been identified on the construction plans to allow materials and wastes to be segregated at source, reducing the risk of damage or contamination.	
GG28	Where necessary, temporary appropriate technology / material will be installed in areas where heavy equipment, such as cranes and piling rigs, are to be used to provide stable working areas and reduce disturbance to the ground by spreading loads and reducing soil compaction. This will be required for overhead line construction and would be temporary. Also refer to AS09.	This would reduce ground disturbance and hence reduce the risk of groundwater and surface water flows being impacted.
GG32	Runoff across the site will be controlled through a variety of methods including header drains, buffer zones around watercourses, on-site ditches, silt traps and bunding. There will be no intentional discharge of site runoff to ditches, watercourses, drains, including highway drainage systems, or sewers without appropriate treatment and agreement of the appropriate authority. All practicable steps would be put in place to prevent pollution of watercourses in the case of an emergency, with protocols in place to address accidental spills and severe weather events.	This commitment would reduce the risk of pollution, safeguarding water quality during construction (physico-chemical and biological quality elements).
AS01	Soil management measures are detailed in an Outline Soil Resource Plan (see Appendix C of the Outline CoCP (document reference 7.2)). Measures will include but not be limited to the following:	These commitments would reduce the risk of pollution from silted runoff during construction and avoid changes to runoff rates/ patterns,

Ref	Standard Mitigation Measure	Relevance to WFD
	• Details of the soil resources present • How topsoil and subsoil will be stripped and stockpiled based on their specific characteristics • Suitable conditions for when handling soil will be undertaken and climatic STOP conditions • Principles to determine suitable soil storage locations • How soil stockpiles will be designed, taking into consideration site conditions and the nature/composition of the soil • Specific measures for managing sensitive soils • Suitable protective surfacing where soil stripping can be avoided, based on sensitivity of the environment and proposed works • Approach to reinstating soil that has been compacted, where required • Details of measures required for soil restoration.	safeguarding water quality (physico-chemical and biological quality elements). They would also reduce the risk of groundwater and surface water flows being impacted.
AS05	Engagement with affected landowners will be carried out to investigate the current extent of land drainage. A scheme of pre-construction land drainage will be designed with the intent of maintaining the efficiency of the existing known land drainage system and to assist in maintaining the integrity of the working area during construction. The Project may include a system of 'cut-off' drains which feed into a new header drain and the Project will also consider surface water runoff measures. The Main Works Contractor(s) will ensure any land drains within the Order Limits, affected as a result of the Project, will be reinstated to their former condition, where agreed with the landowner. Any installed pre-construction land drainage to replace existing land drains affected by permanent infrastructure, as well as any drainage improvements resulting from the Project, would be retained. Those outside the Order Limits will be the responsibility of the landowner.	These measures would reduce the risk of groundwater and surface water flows being impacted. Reinstating affected land drains would reduce the risk of long-term impacts on waterbodies.
AS09	Appropriate technology / material will be installed in areas where heavy equipment, such as cranes and piling rigs, are to be used, as outlined in GG28 to provide stable working areas and reduce disturbance to the ground. Typically the area will be stripped of the topsoil (and subsoil where required), which will be stored and reinstated (following removal) in accordance with the soil management measures contained in the Outline Soil Resource Plan (Appendix C of the Outline CoCP (document reference 7.2)).	This would reduce ground disturbance and hence reduce the risk of groundwater and surface water flows being impacted.

Ref	Standard Mitigation Measure	Relevance to WFD
B02	Construction effects will be designed out/minimised as far as possible through, for example, minimising land-take/habitat loss and locating access tracks/haul roads and site compound/material storage areas outside of ecologically sensitive sites/habitats (such as statutory and non-statutory designated sites, priority habitats and wetlands). Clearly demarcated, dedicated access routes will be provided during construction and any areas required for temporary works will be reinstated on completion.	This would reduce impacts on ecologically sensitive sites/habitats.
B03	Best environmental practice techniques will be followed with regards to: • The control of dust and other emissions from construction • Appropriate preventative measures to prevent debris arising from the construction works and sediment runoff and silt dispersal into watercourses • Chemicals and fuels storage and pollution incident response procedures • Imposed and signposted site speed limits on all construction haul roads and access tracks to minimise the risk of road traffic collisions with fauna • The control of noise and vibration to ensure it is kept to the minimum necessary (see Outline Dust Management Plan in Appendix D of the Outline CoCP (document reference 7.2)) • Appropriate protective areas (around woodland, hedgerows and trees) will be established using appropriate fencing and signage which will be inspected, repaired, and replaced as necessary. The protective areas will be shown on the Reinstatement Planting Plan secured by Requirement 9 in the draft DCO (document reference 3.1).	This commitment would reduce the risk of pollution, safeguarding water quality during construction (physico-chemical and biological quality elements).
B04	Measures must be taken to prevent the spread of Invasive Non-Native Species (INNS) of terrestrial and aquatic plants. Appropriate exclusion zones will be demarcated and enforced around areas of INNS (informed by an up-to-date site walkover) to avoid spread or propagation (through seeds, rhizomes, fragments, etc.). Appropriate biosecurity measures will be documented in a method statement and implemented during construction to prevent the spread of INNS via personnel, vehicles, plant, or machinery. Workers will be equipped with the necessary equipment, Personal Protective Equipment and substances to implement biosecurity control measures, including effective hygiene and sanitation practices. This will most frequently comprise disinfectant tablets, sprayers, and brushes to clean and disinfect equipment and Personal Protective Equipment prior to	This would reduce the pollution risk associated with general construction activities with reference to biosecurity and safeguard biological quality elements.

Ref	Standard Mitigation Measure	Relevance to WFD
	entering/leaving INNS exclusion zones. Water used to clean vehicles will be controlled to prevent spreading of INNS.	
B11	Method statements will be developed to ensure that any culverts installed within watercourses include suitable measures to allow the passage of animals (i.e., otters, water vole and fish) throughout construction, accounting for fluctuating water levels. For otter and water vole this may comprise an adjacent dry pipe. Where appropriate, in-channel works will be supported using a cofferdam, and for certain watercourses this will require fish rescue to be carried out under licence from the Environment Agency. This will entail using stop nets or equivalent to enclose the area of work and electric fishing the area a minimum of three times. Rescued fish will then be released a suitable distance downstream. The duration of construction activities within watercourses will be kept to a minimum to minimise effects.	These commitments would reduce impacts on fauna that use or live in watercourses (biological quality elements).
B14	Wherever possible, habitat connectivity will be retained by using existing access routes, reducing working widths through biodiversity receptors, and maintaining connectivity through green corridors such as hedgerows and watercourses.	
GH01	Intrusive ground investigations and assessment will be undertaken prior to construction, including the measurement and monitoring of groundwater levels in relevant locations, and geotechnical and geoenvironmental sampling and testing, as appropriate. The information will inform geoenvironmental assessment, where required, and appropriate geotechnical design in relation to the site/structure specific ground conditions including ground instability/adverse ground conditions/ground gas.	These commitments would safeguard groundwater quality during construction.
GH02	A Foundation Works Risk Assessment (FWRA) will be undertaken by the Main Works Contractor(s) at locations of pylons, CSE compounds, and substations (where the use of piled foundations are anticipated prior to construction). The Main Works Contractor(s) will use construction methods, such as appropriate piling techniques (if required), to minimise and avoid the risk of introducing new contamination, creating new contamination pathways, and mixing of aquifer bodies. The FWRA would be undertaken once the proposed foundation solutions are known, in accordance with Environment Agency guidance ‘Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination’ (Environment Agency, 2025).	

Ref	Standard Mitigation Measure	Relevance to WFD
GH05	All use and storage of chemicals and fuels are to be undertaken in accordance with Environment Agency guidance and the Control of Pollution (Oil Storage) Regulations 2001. The use and storage of chemicals and fuels will also be controlled and monitored under the CoCP which will include, for example, procedures for good general construction site practices, environmental and waste management procedures, regular vehicle checks, use of spill kits, correct waste storage and disposal, use of oil-water separators as necessary (for example, for drainage from refuelling areas), collection of process water from the washout/ cleaning of ready-mix concrete vehicles and equipment for treatment/disposal.	This measure would reduce the risk of pollution, safeguarding water quality during construction (physico-chemical and biological quality elements).
GH07	Any temporary dewatering activities during construction will be undertaken in accordance with Environment Agency guidance including appropriate assessment undertaken as required by the guidance, and if required, an Abstraction Licence and Environmental Permit (for the discharge) will be obtained, and the works will be limited to the depth and time required to facilitate construction activities.	This commitment would reduce the risk of pollution from silted runoff during construction and avoid changes to runoff rates/patterns safeguarding water quality (physico-chemical and biological quality elements). This commitment would reduce the risk of groundwater and surface water flows being impacted.
GH08	A protocol for dealing within any unexpected contamination will be developed by the Main Works Contractor(s) and include: • Details of a watching brief and tool box talks to be implemented throughout the construction phase • Details regarding how any affected area will be delineated, protected, investigated and assessed • The qualifications and competencies of the person appointed to oversee the works • The preparation of a method statement for how the contamination will be dealt with or remediated (as appropriate) • An escalation policy describing when and how any notifications and approvals will be agreed with the Local Planning Authority • Details of verification procedures for any mitigation or remediation works.	These commitments would reduce the risk of pollution, safeguarding water quality during construction (physico-chemical and biological quality elements).

Ref	Standard Mitigation Measure	Relevance to WFD
GH09	Restrictions will be applied for any work within Groundwater Source Protection Zones (SPZs) 1 and 2 and discussed with the Environment Agency. Restrictions may include: • Construction vehicle parking, fuel storage, de-icer storage, rock salt storage, and washout/cleaning of ready-mix concrete vehicles and equipment will be sited outside SPZ1 and where possible outside SPZ2 designations. • Application of salt grit (for example, to prevent access tracks freezing) to comply with recommended rates in CIRIA 648 (2006) with control of runoff during any application in SPZs.	
GH10	Where specific sites within the Order Limits have been assessed in the ES as presenting a moderate (or above) risk to sensitive receptors from potential existing contamination, and there is potential for ground disturbance at the sites during the construction of the Project, these sites will be individually investigated and assessed (in accordance with guidance described within Land Contamination Risk Management (Environment Agency, 2023b)) prior to construction. This will inform the assessment of the risks to receptors, and good practice measures and working methods to control those risks will be developed. The results will be discussed and the nature and scope of any mitigation or remediation will be agreed with the Environment Agency and Local Planning Authority (as appropriate). Made ground and materials known to be or strongly suspected of being contaminated will be segregated from natural and inert materials; and ground arisings determined as unsuitable for reuse within the Project will be disposed of appropriately, for example to a soil treatment centre or landfill.	These commitments would reduce the risk of pollution during construction and avoid changes to runoff rates/patterns safeguarding water quality (physico-chemical and biological quality elements).
GH11	At trenchless crossings, and where otherwise indicated in the ES, a Hydrogeological Risk Assessment will be undertaken to assess the specific risks to groundwater and groundwater receptors (including the risk of breakout of drilling fluids and turbidity, where appropriate) at those locations and identify any additional mitigation or remediation that may be required. The nature and scope of any mitigation or remediation will be agreed with the Environment Agency or other stakeholders, as appropriate.	This commitment would safeguard groundwater quality during construction.
GH12	The provision of a Drilling Fluid Breakout Method Statement, where horizontal directional drilling is proposed at trenchless locations, will be developed by the Main Works	This commitment would safeguard the water quality of surface and

Ref	Standard Mitigation Measure	Relevance to WFD
	Contractor(s), and will be informed by sufficient appropriate ground investigation and will include: • Detailed and appropriate design of all trenchless crossings including demonstration of a suitable drilling profile and depth to mitigate the risk of breakout • Description of drilling procedure and demonstration of suitability, including removal of borehole cuttings during drilling • Annular pressure monitoring • Regular walkovers of the drill path to check for visible evidence of breakouts • Measures to limit the volume of the drilling fluid loss • Measures to contain the lost drilling fluid • Measures to remove the lost drilling fluid • Measures to seal the area of the breakout • Measures to provide any remediation, if appropriate.	groundwater bodies during construction.
GH14	During dewatering of excavations, any water removed would be discharged as close to the excavations as possible in line with GH07. Water would be discharged as soon as practically possible so that the dewatered groundwater body is recharged as much and as soon as possible.	This commitment would reduce impacts on groundwater recharge rates (quantitative elements).

B.1.1 As detailed in the Outline CoCP (document reference 7.2), an Ecological Clerk of Works (ECoW(s)) will monitor the construction works to ensure compliance with any licences, permits and consents obtained to avoid effects on protected species and habitats, along with ensuring compliance with environmental legislation. The ECoW will oversee ecological pre-construction surveys and will also manage ecological operatives engaged in ecological mitigation activities – such as undertaking ecological watching briefs and translocation of protected species.

B.1.2 The Outline CoCP (document reference 7.2) will be developed into the CoCP or multiple CoCPs (following detailed design) by the Main Works Contractor(s) to discharge Requirement 4 of the draft DCO (document reference 3.1). The CoCP(s) will follow the same format as the Outline CoCP (document reference 7.2) and will be developed prior to commencement of the main construction works commencing and adhered to throughout the construction phase.

Appendix C. Environment Agency Feedback and Project Response

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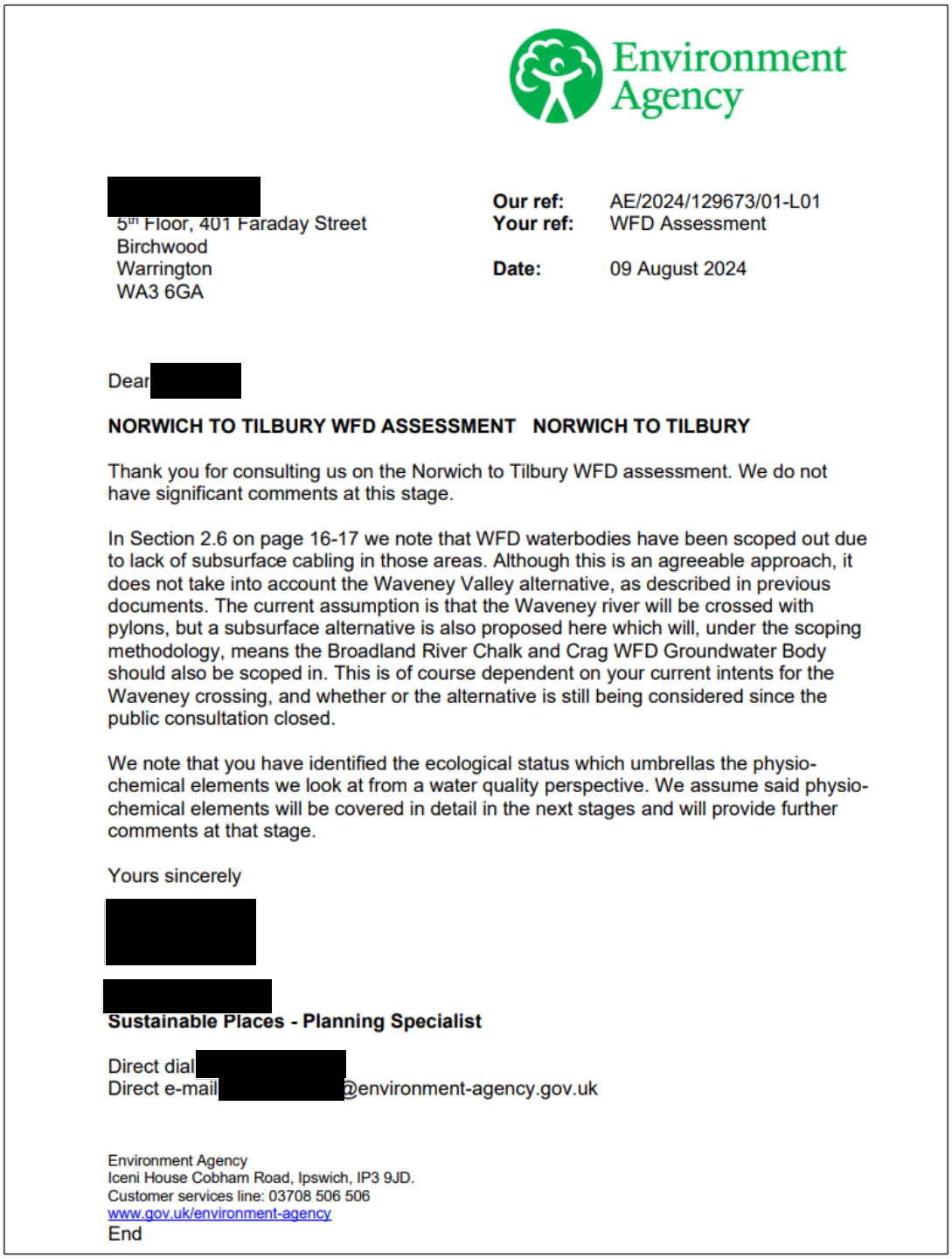
Appendix C
Environment Agency Feedback and Project Response

Image C.1 Stages 1 & 2



[redacted]
5th Floor, 401 Faraday Street
Birchwood
Warrington
WA3 6GA

Our ref: AE/2024/129673/01-L01
Your ref: WFD Assessment

Date: 09 August 2024

Dear [redacted]

NORWICH TO TILBURY WFD ASSESSMENT NORWICH TO TILBURY

Thank you for consulting us on the Norwich to Tilbury WFD assessment. We do not have significant comments at this stage.

In Section 2.6 on page 16-17 we note that WFD waterbodies have been scoped out due to lack of subsurface cabling in those areas. Although this is an agreeable approach, it does not take into account the Waveney Valley alternative, as described in previous documents. The current assumption is that the Waveney river will be crossed with pylons, but a subsurface alternative is also proposed here which will, under the scoping methodology, means the Broadland River Chalk and Crag WFD Groundwater Body should also be scoped in. This is of course dependent on your current intents for the Waveney crossing, and whether or the alternative is still being considered since the public consultation closed.

We note that you have identified the ecological status which umbrellas the physio-chemical elements we look at from a water quality perspective. We assume said physio-chemical elements will be covered in detail in the next stages and will provide further comments at that stage.

Yours sincerely

[redacted]

[redacted]
Sustainable Places - Planning Specialist

Direct dial [redacted]
Direct e-mail [redacted]@environment-agency.gov.uk

Environment Agency
Iceni House Cobham Road, Ipswich, IP3 9JD.
Customer services line: 03708 506 506
www.gov.uk/environment-agency
End

C.1.1 Project Response to the Environment Agency:
'Proposals and assumptions relating to the Waveney Valley will be confirmed in the next stages of assessment, which will also address the EA's comment regarding physio-chemical elements'.

Table C.1 Stage 3

Environment Agency comments on the Stage 3 WFD Assessment	Project Team Comments
Groundwater - We are glad to see the inclusion of the Waveney and East Suffolk Chalk and Crag Groundwater Body included in the screening in response to the Waveney Alternative. There are some additional details in the Stage 3 assessment that were not included in the Stages 1 and 2 assessment which highlight some areas for WFD assessment (cf. Section 3 and Table 5 of the Stages 1 and 2 assessment compared to Table 2.4 of the Stage 3 assessment). We do not see why the components General Construction (including use of haul roads- not mentioned in the Stages 1 and 2 assessment) have the potential to impact the WFD groundwater bodies in Essex but not in the Waveney and East Suffolk Chalk and Crag and Broadlands Chalk and Crag Groundwater Bodies.	The potential for general construction activities to impact on all WFD groundwater bodies within the Projects Zone of Influence has been assessed and reported on in the Stage 4 report.
Groundwater - Table 2.1 of the Stage 3 assessment confirms the use of haul roads in Project Sections A and B which overlap these groundwater bodies. If haul roads throughout the construction pose a risk to chemical status of all WFD groundwater bodies, these should be screened in.	This comment is noted, where haul roads overlap WFD groundwater bodies, these groundwater bodies have been screened in and the potential for detriment to these has been assessed at Stage 4.
Groundwater - The component 'Permanent infrastructure within Project boundary (underground cable)' would also presumably have the same impacts associated with the Waveney Valley Alternative as it would with other crossings (i.e. the Stour crossings). Surface Water bodies have been screened-in to reflect the Waveney Valley alternative, but the Waveney and East Suffolk Chalk and Crag groundwater body has not. The superficial deposits overlying the Crag in the Waveney are considered in continuity with the Chalk and Crag to are assessed as a single unit for WFD purposes.	The Waveney Valley Alternative has not been adopted by the Project, therefore there would be no associated effects on the Waveney and East Suffolk Chalk and Crag groundwater body.
Water Resources - With reference to Table 2.3 of the Stage 3 assessment: Potential Impacts of Project Components on WFD Transitional Waterbodies and Protected Areas (Stage 3 report page 12) - During Dewatering of excavations, any dewatered water needs to be discharged as close to the excavations as possible and as soon as practically possible so that the waterbody from which water is dewatered will be recharged as much and soon as possible.	This requirement is noted and has been included as a commitment within the Outline Code of Construction Practice (CoCP) (document reference 7.2) as a mitigation measure.
Fisheries, Biodiversity & Geomorphology - We believe that as all watercourse crossings have been	Noted.

Environment Agency comments on the Stage 3 WFD Assessment	Project Team Comments
screened in and taken through to detailed assessment at Stage 4, we will provide further comments when Stage 4 is available.	

Image C.2 Stage 4

Environment Agency

[redacted]
Arcadis
2 Glass Wharf
Bristol
Bristol
BS2 0FR

Our ref: AE/2024/129673/05-L01
Your ref: WFD Assessment

Date: 16 April 2025

Dear [redacted]

NORWICH TO TILBURY WFD ASSESSMENT - STAGE 4 - SUPPLEMENTARY CONSULTATION

Thank you for consulting us on the supplementary stage 4 WFD consultation. Please find our comments below.

River Crossings

We are pleased to see that the document confirms clear span bridges and soffits are as high as feasible. Therefore, we do not have anything additional to add from previously provided bridge guidance.

In relation to reference W01 in Table A2.1 we note that permitting requirements are specified as for "works **within** main rivers". Our permitting requirements are highlighted below:

The Environmental Permitting (England and Wales) Regulations 2016 require a permit to be obtained for any activities which will take place:

- on or within 8 metres of a main river (16 metres if tidal)
- on or within 8 metres of a flood defence structure or culverted main river (16 metres if tidal)
- on or within 16 metres of a sea defence
- involving quarrying or excavation within 16 metres of any main river, flood defence (including a remote defence) or culvert
- in the floodplain of a main river if the activity could affect flood flow or storage and potential impacts are not controlled by a planning permission

For further guidance please visit https://www.gov.uk/guidance/flood-risk-activities-environmental-permits.

Culverting

Environment Agency
Iceni House Cobham Road, Ipswich, IP3 9JD.
Customer services line: 03708 506 506
www.gov.uk/environment-agency
Cont/d..

In relation to culverting, it is our understanding that all proposed culverts are now on ordinary watercourses and no culverts are proposed on main rivers. You should therefore ensure that you have consulted the Lead Local Flood Authority (LLFA) or if these are in the district of an internal drainage board (IDB) that they are consulted. We understand that no new culvert locations are proposed and the new/upgraded culverts as part of this consultation are only proposed where there are existing culverts in situ.

In any case, it should be ensured that where culverts are proposed that it is adequately demonstrated why this is both necessary and the only reasonable and practicable alternative. We welcome the justification provided within our dedicated WFD meeting.

Where it has been robustly demonstrated that the culverting is both necessary and the only reasonable practicable alternative, the length of any culvert should be restricted to the minimum necessary to meet the applicant's objective.

Water Resources

We are pleased to see the addition of water supply considerations in good practice reference W16. As water is being sources from mains, we would highly recommend making early contact with the relevant water companies to ensure they are able to sustainably supply the proposals.

Groundwater

We are happy to see our previous comments included in the WFD Stage 4 assessment. We note these include the addition of groundwater monitoring in measure GH01 and inclusion of measure GH14 regarding the discharge of water as near as possible to any dewatered excavations.

We are pleased to see a good practice measure GH02 to include a Foundation Works Risk Assessment – please note that the guidance for this has very recently been re-published and updated. The updated guidance can be found here:
Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention
Please can you confirm if these will be included in a REAC document as the title does suggest they are a Commitment.

Review of further documentation

We have provided our comments on this consultation through the ongoing planning advice service agreement we have with National Grid. Invoices are generated monthly and will be referenced against agreement number ENVPAC/1/EAN/00462.

Yours sincerely

[redacted]

[redacted]
Sustainable Places - Planning Specialist

Direct dial [redacted]
Direct e-mail [redacted]@environment-agency.gov.uk

End 2

Appendix D. Typical Layout Drawings

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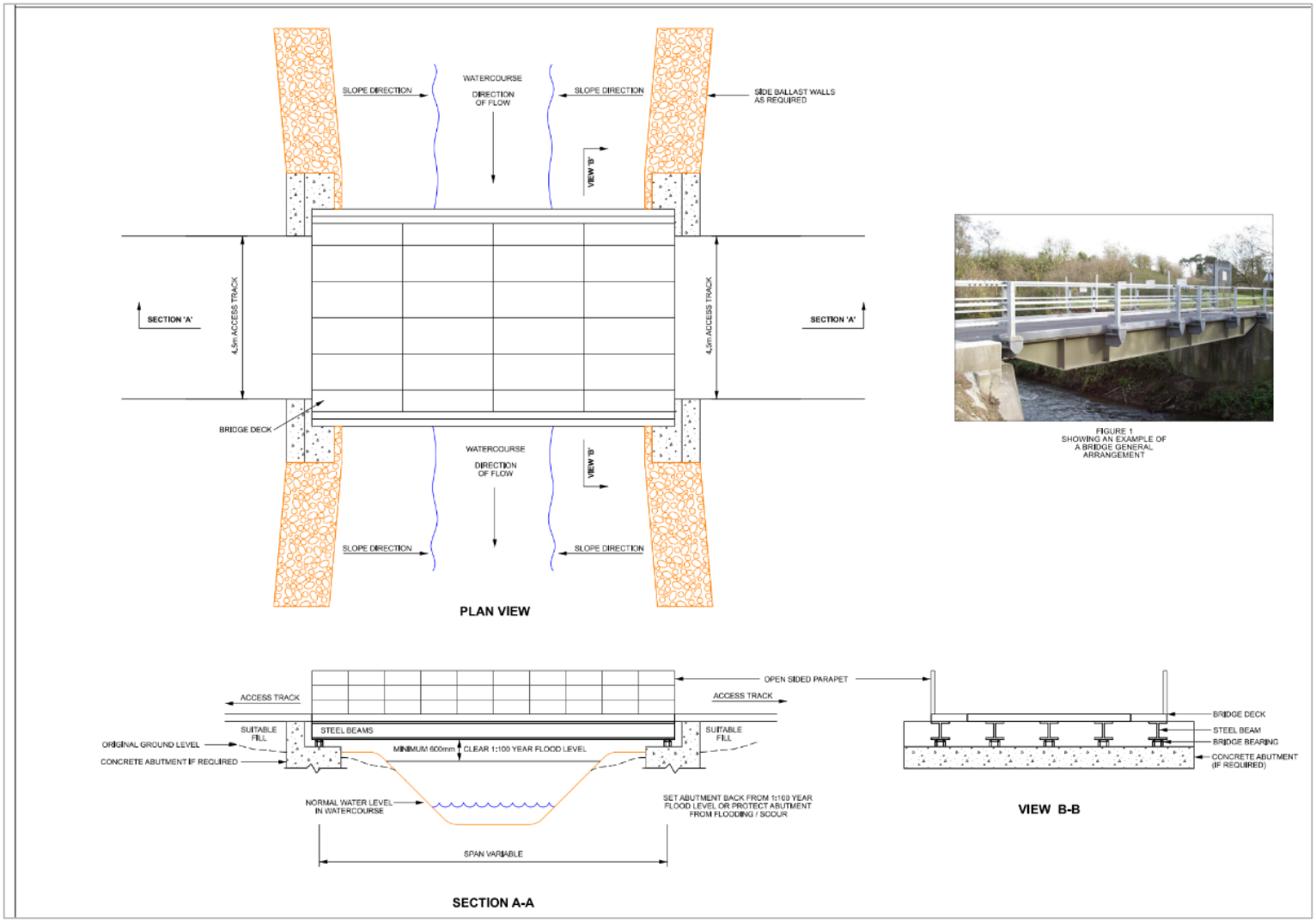
Appendix D
Typical Layout Drawings

Image D.1 Typical Layout



Appendix E. WFD Baseline Data and Watercourse Photographs

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Appendix E
WFD Baseline Data and Watercourse Photographs

Table E.1 Baseline WFD data (ecological 2022, chemical 2019)

WFD Waterbody (ID)	Element	Status/Value
Tas (Tasburgh to R. Yare) (GB105034051230)	Length (km)	15.08
	Catchment area (ha)	6,001.38
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail (due to PBDE)
	Field Notes/Photograph: N/A	
	RNAGs: PBDE, sewage discharges, poor land and livestock management practices	
	Ecological objective	Moderate (2015)
	Chemical objective	Good (2063)
Tributary of Tas (GB105034050950)	Length (km)	5.63
	Catchment area (ha)	1,722.47
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail

WFD Waterbody (ID)	Element	Status/Value
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharges, poor livestock, nutrient and land drainage management	
	Ecological objective	Moderate
	Chemical objective	Good
Tas (Head to Tasburgh) (GB105034045730)	Length (km)	16.67
	Catchment area (ha)	6,944.86
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Drought, surface water abstraction	
	Ecological objective	Good
	Chemical objective	Good
Frenze Beck (GB105034045840)	Length (km)	11.71
	Catchment area (ha)	3,757.61
	Ecological status	Moderate
	Biological quality	Moderate

WFD Waterbody (ID)	Element	Status/Value
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, low flow, poor nutrient and soil management, groundwater abstraction, land use	
	Ecological objective	Moderate
	Chemical objective	Good
Waveney (u/s Frenze Beck) (GB105034045820)	Length (km)	10.49
	Catchment area (ha)	4,465.21
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 14/08/24, average channel width 4 m, average bank height 1.7 m	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Drought	
	Ecological objective	Good
	Chemical objective	Good
Tributary of Upper Waveney (GB105034045750)	Length (km)	5.58
	Catchment area (ha)	2,146.57
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail

WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, poor nutrient and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
Little Ouse (US Thelnetham) (GB105033043060)	Length (km)	8.75
	Catchment area (ha)	3,955.02
	Ecological status	Bad
	Biological quality	Bad
	Fish	Bad
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Groundwater and surface water abstraction, poor nutrient management and sewage discharge	
	Ecological objective	Good
	Chemical objective	Good
Dove trib – Finningham (GB105034045660)	Length (km)	10.65
	Catchment area (ha)	5,020.01
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail

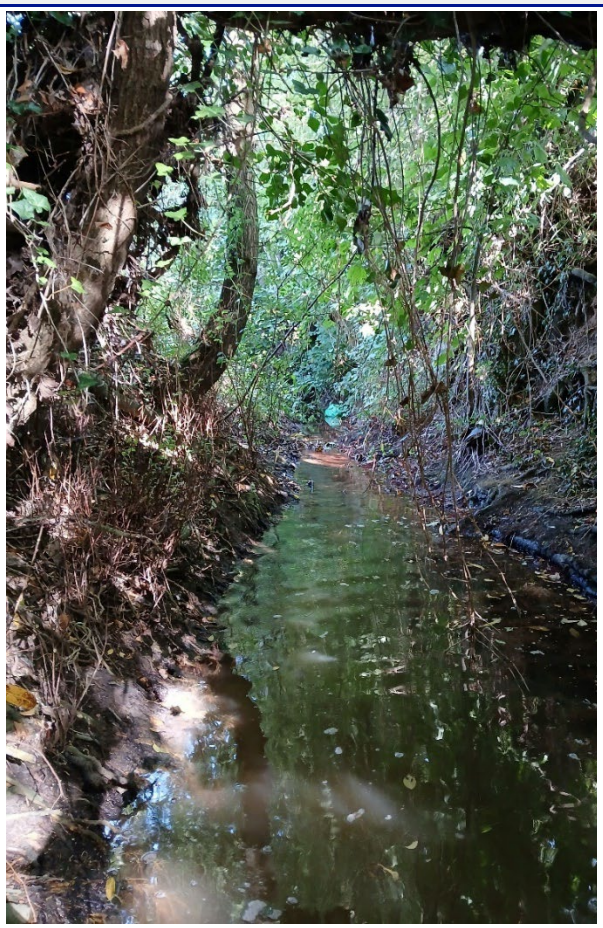
WFD Waterbody (ID)	Element	Status/Value
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, poor livestock and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Mendlesham Stream (GB105034045650)	Length (km)	5.9
	Catchment area (ha)	3,147.36
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, poor livestock and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Gipping (u/s Stowmarket) (GB105035046180)	Length (km)	7.34
	Catchment area (ha)	2,636.6
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate

WFD Waterbody (ID)	Element	Status/Value
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage and industry discharge, poor livestock, soil and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Gipping (d/s Stowmarket) (GB105035046280)	Length (km)	25.92
	Catchment area (ha)	9,717.07
	Ecological status	Poor
	Biological quality	Poor
	Fish	High
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 24/09/24, average channel width 1 m, average bank height 2.5 m	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Groundwater abstraction, sewage discharge, transport drainage, poor livestock and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Wattisham Watercourse (GB105035040350)	Length (km)	7.99
	Catchment area (ha)	1,744.63
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph:	

WFD Waterbody (ID)	Element	Status/Value
	N/A	
	RNAGs: Private sewage treatment, transport drainage, sewage discharge, poor livestock, land drainage and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Somersham Watercourse (GB105035040310)	Length (km)	10.23
	Catchment area (ha)	2,526.86
	Ecological status	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: south-eastern channel:	

WFD Waterbody (ID)	Element	Status/Value



The north-west channel:

WFD Waterbody (ID)	Element	Status/Value
	The north-east channel: 	
	RNAGs: Private sewage treatment, transport drainage, groundwater abstraction, sewage discharge, poor livestock and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Belstead Brook (GB105035040440)	Length (km)	23.46
	Catchment area (ha)	5,101.4
	Ecological status	Poor
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment

WFD Waterbody (ID)	Element	Status/Value
	Priority hazardous substances	Fail

Field Notes/Photograph: photo taken 05/06/24, average channel width 2.6 m, average bank height 1.2 m

Photo of Spring Brook (tributary of Belstead Brook)

WFD Waterbody (ID)	Element	Status/Value
	RNAGs: Barriers (ecological discontinuity), poor livestock, soil and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Stutton Brook (GB105036040890)	Length (km)	16.79
	Catchment area (ha)	4,167.66
	Ecological status	Poor
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Transport drainage, barriers (ecological discontinuity), sewage discharge, poor livestock and nutrient management	
	Ecological objective	Poor
	Chemical objective	Good
River Brett (GB105036040930)	Length (km)	24.71
	Catchment area (ha)	8,581.18
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail

WFD Waterbody (ID)	Element	Status/Value
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Transport drainage, surface water and groundwater abstraction, barriers (ecological discontinuity), sewage discharge, poor livestock, soil and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Stour (d/s R. Brett) (GB105036041000)	Length (km)	10.42
	Catchment area (ha)	3,066.04
	Ecological status	Moderate
	Biological quality	High
	Fish	High
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: Eastern crossing – photo taken 22/10/24, average channel width 17.5 m, average bank height 1 m	

WFD Waterbody (ID)	Element	Status/Value

Western Crossing - photo taken 16/10/24, average channel width 18 m, average bank height 1.5 m

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Sewage discharge, poor rural land and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Stour (Lamarsh - R. Brett) (GB105036040942)	Length (km)	20.19
	Catchment area (ha)	9,021.88
	Ecological status	Moderate
	Biological quality	Good
	Fish	High
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	

WFD Waterbody (ID)	Element	Status/Value
	RNAGs: Sewage discharge, poor rural land, livestock and nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Salary Brook (GB105037041320)	Length (km)	15.00
	Catchment area (ha)	2,823.13
	Ecological status	Moderate
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, transport drainage, barriers (ecological discontinuity), poor soil and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
Ardleigh Reservoir (GB30539944)	Surface area (km^2)	0.5
	Catchment area (ha)	1,186.75
	Ecological status	Moderate
	Biological quality	Moderate
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail

WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge	
	Ecological objective	Good
	Chemical objective	Good
Tenpenny Brook (GB105037041310)	Length (km)	1.47
	Catchment area (ha)	3,010.18
	Ecological status	Moderate
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, barriers (ecological discontinuity), flood protection (structures)	
	Ecological objective	Good
	Chemical objective	Good
Holland Brook (GB105037077810)	Length (km)	21.07
	Catchment area (ha)	9,594.84
	Ecological status	Moderate
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate

WFD Waterbody (ID)	Element	Status/Value
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Saline intrusion, barriers (ecological discontinuity), urbanisation, poor livestock, soil and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Colne (d/s Doe's Corner) (GB105037041330)	Length (km)	31.85
	Catchment area (ha)	10,683.97
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: photos taken 29/08/24, average channel width 7.1 m, average bank height 4 m	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Sewage discharge, transport drainage, nutrient management	
	Ecological objective	Good
	Chemical objective	Good
Roman River (GB105037034150)	Length (km)	19.52
	Catchment area (ha)	6,110.92
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail

WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: photo taken 13/08/24, average channel width 2.7 m, average bank height 1.7 m 	
	RNAGs: Sewage discharge, drought, urbanisation, barriers (ecological discontinuity), transport and land drainage, poor soil and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Blackwater (Combined Essex) (GB105037041160)	Length (km)	38.63
	Catchment area (ha)	13,162.46
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	High
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail

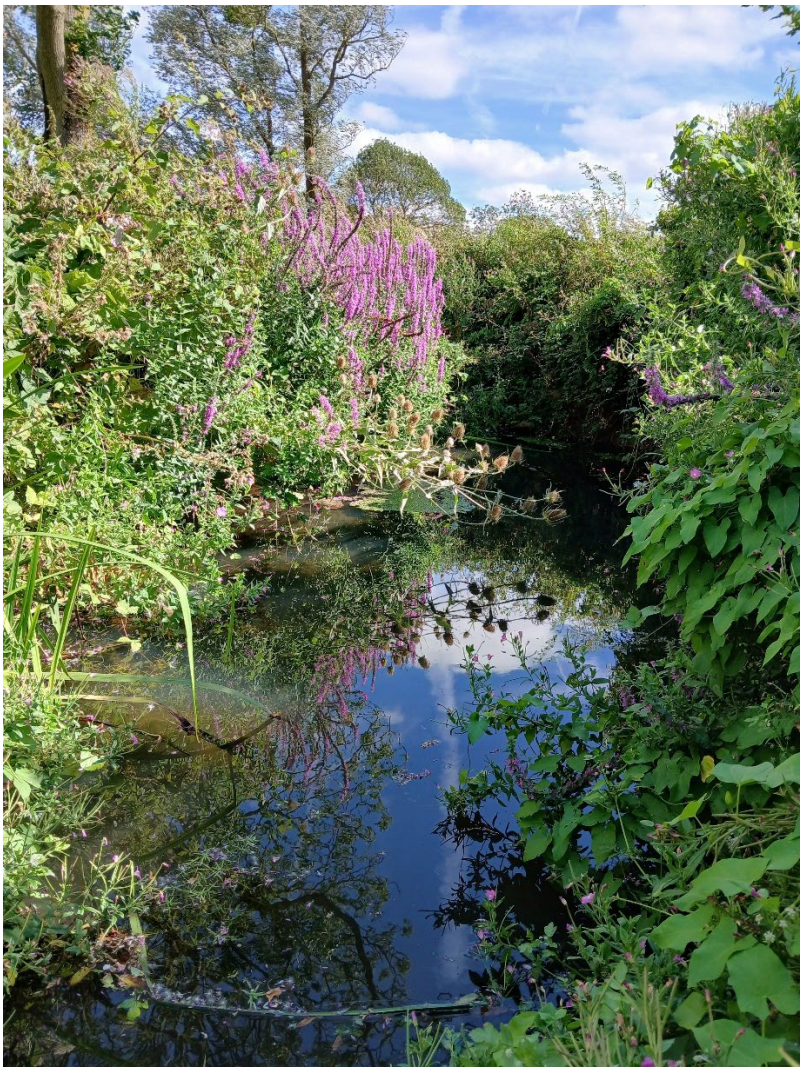
WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: photo taken 22/10/24, average channel width 6.9 m, average bank height 1.6 m 	
	RNAGs: Sewage discharge, transport drainage, poor livestock and nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Brain (GB105037041140)	Length (km)	30.53
	Catchment area (ha)	6,993.47
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Fail
	Other pollutants	Does not require assessment

WFD Waterbody (ID)	Element	Status/Value
	Priority hazardous substances	Fail
	Field Notes/Photograph: Northern crossing – photo taken 14/08/24, average channel width 5 m, average bank height 1 m  Southern crossing – photo taken 15/08/24, average channel width 3.8 m, average bank height 1 m	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Sewage discharge, urbanisation, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Ter (GB105037033940)	Length (km)	31.37
	Catchment area (ha)	7,954.78
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 28/09/24, average channel width 3.9 m, average bank height 1 m	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Sewage discharge, transport drainage, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Chelmer (Gt Easton - R. Can) (GB105037033950)	Length (km)	34.06
	Catchment area (ha)	11,623.72
	Ecological status	Moderate
	Biological quality	Good
	Fish	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail

WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, barriers (ecological discontinuity), land and transport drainage, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Chignall Brook (GB105037033650)	Length (km)	6.49
	Catchment area (ha)	1,173.11
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, urbanisation, land drainage, poor nutrient and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
River Can (GB105037033840)	Length (km)	28.19
	Catchment area (ha)	4,801.26
	Ecological status	Poor
	Biological quality	Poor
	Fish	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail

WFD Waterbody (ID)	Element	Status/Value
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 15/08/24, average channel width 3.8 m, average bank height 2.2 m 	
	RNAGs: Sewage and industry discharge, barriers (ecological discontinuity), land drainage, poor nutrient, soil and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
Roxwell Brook (GB105037033540)	Length (km)	5.76
	Catchment area (ha)	3,568.24
	Ecological status	Poor

WFD Waterbody (ID)	Element	Status/Value
	Biological quality	Poor
	Fish	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 21/05/24, average channel width 3.6 m, average bank height 1.8 m 	
	RNAGs: Sewage discharge, barriers (ecological discontinuity), land drainage, poor nutrient, soil and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
	Length (km)	9.78
	Catchment area (ha)	3,727.43

WFD Waterbody (ID)	Element	Status/Value
Wid (Margaretting Hall - R. Can) (GB105037033900)	Ecological status	Poor
	Biological quality	Poor
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: Northern crossing – photo taken 10/09/24, average channel width 8.2 m, average bank height 2 m 	
	RNAGs: Sewage discharge, transport drainage, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
	Length (km)	3.24

WFD Waterbody (ID)	Element	Status/Value
Wid (Ingatestone Hall - Margaretting Hall) (GB105037028690)	Catchment area (ha)	1,935.91
	Ecological status	Moderate
	Biological quality	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: Middle crossing – photo taken 23/05/24, average channel width 5 m, average bank height 1.5 m 	
	RNAGs: Sewage discharge, transport drainage, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good

WFD Waterbody (ID)	Element	Status/Value
Wid (Shenfield STW - Ingatestone Hall) (GB105037028670)	Length (km)	4.72
	Catchment area (ha)	1,853.85
	Ecological status	Moderate
	Biological quality	Moderate
	Fish	High
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: Southern crossing – photo taken 24/05/24, average channel width 5 m, average bank height 1.5 m  Photo of Stock Brook (tributary of River Wid):	

WFD Waterbody (ID)	Element	Status/Value
		
	RNAGs: Sewage discharge, transport and land drainage, poor nutrient, livestock and soil management	
	Ecological objective	Moderate
	Chemical objective	Good
Wid (Doddinghurst Brook - Shenfield STW) (GB105037028680)	Length (km)	4.79
	Catchment area (ha)	984.45
	Ecological status	Poor
	Biological quality	Poor
	Fish	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail

WFD Waterbody (ID)	Element	Status/Value
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, transport and land drainage, poor nutrient management	
	Ecological objective	Moderate
	Chemical objective	Good
Haverings Grove Brook (GB105037028650)	Length (km)	5.88
	Catchment area (ha)	1,780.42
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, urbanisation, land drainage, poor soil and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
Crouch (Upper) - u/s A129 (GB105037028500)	Length (km)	5.66
	Catchment area (ha)	1,702.23
	Ecological status	Moderate
	Biological quality	Moderate
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good

WFD Waterbody (ID)	Element	Status/Value
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Drought, urbanisation, transport drainage, poor nutrient and livestock management	
	Ecological objective	Good
	Chemical objective	Good
Mardyke (East Tributary) (GB106037028070)	Length (km)	7.69
	Catchment area (ha)	2,461.91
	Ecological status	Moderate
	Biological quality	Good
	Fish	High
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Does not require assessment
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Poor nutrient and livestock management	
	Ecological objective	Moderate
	Chemical objective	Good
Mardyke (GB106037028200)	Length (km)	11.53
	Catchment area (ha)	4,416.15
	Ecological status	Moderate
	Biological quality	Good
	Fish	Moderate

WFD Waterbody (ID)	Element	Status/Value
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: photo taken 29/08/24, average channel width 1 m, average bank height 1.5 m 	
	RNAGs: Sewage discharge, land drainage	
	Ecological objective	Moderate
	Chemical objective	Good
Thames Middle (GB530603911402)	Surface area (km^2)	44.16
	Catchment area (ha)	4,416.09
	Ecological status	Moderate
	Biological quality	Good

WFD Waterbody (ID)	Element	Status/Value
	Fish	Good
	Hydromorphological Supporting Elements	Supports good
	Physico-chemical	Moderate
	Chemical status	Fail
	Priority substances	Good
	Other pollutants	Good
	Priority hazardous substances	Fail
	Field Notes/Photograph: N/A	
	RNAGs: Sewage discharge, landfill leaching, contaminated land, land drainage, urbanisation	
	Ecological objective	Moderate
	Chemical objective	Good

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