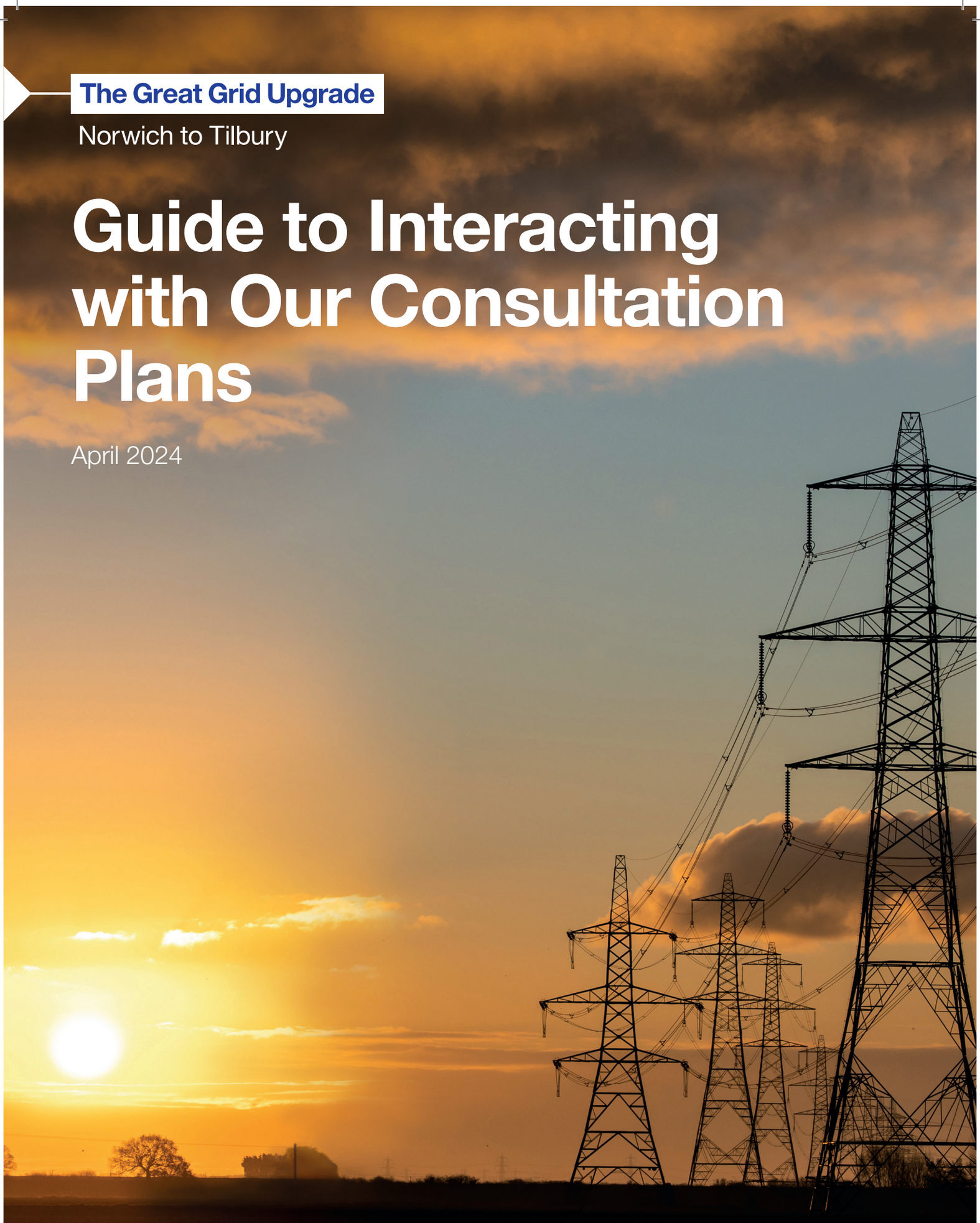
The Great Grid Upgrade

Norwich to Tilbury

Guide to Interacting with Our Consultation Plans

April 2024



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Contents

1. Introduction

1.1.1 This document has been produced by National Grid Electricity Transmission plc (‘National Grid’) to provide guidance on interacting with our latest consultation plans during the statutory consultation on Norwich to Tilbury (hereafter referred to as the ‘Project’). Here we use the term “statutory consultation” to help distinguish this phase of Project engagement with previous phases of consultation. For the remainder of this document, we will for ease simply refer to “consultation”.

1.1.2 The consultation runs from 12.00 noon on 10 April 2024 and 11.59pm on Tuesday 18 June 2024.

1.1.3 To help to explain and visualise the emerging proposals for the Project, we have prepared a series of consultation plans. This guide provides more detail about the plans that are available and what is shown on each plan.

2. What are the consultation plans?

2.1.1 National Grid has prepared a series of plans to support the consultation, to help people understand the emerging proposals and how they may be affected. On request we would also consider providing materials in alternative formats.

2.1.2 Whilst the plans illustrate many aspects of the Project, they do not explain the rationale for the design. This can be found in the 2024 Design Development Report which has been published to accompany the consultation. The consultation documents also include the Preliminary Environmental Information Report (PEIR), which describes the likely significant environmental effect that could result from the Project.

2.1.3 In accordance with normal practice, it should be noted that all plans published in support of the consultation are based on typical and indicative designs. They have been produced to give respondents to the consultation a general understanding of the Project and to help inform feedback. The designs are likely to change in response to consultation feedback, ongoing design, surveys, and environmental assessment. The application for development consent will contain an updated design (and accompanying set of plans), although it should be noted that even at that stage flexibility will be retained through Limits of Deviation (LoD) [see Section 4.5].

3. List of plans for consultation

The standalone plans published to support our consultation are listed below[1]:

Table 3.1 – List of Plans

Title	Description
Overall Location Plan	Allows the user to locate the Project within its regional context. It shows the 2024 preferred draft alignment, Cable Sealing End (CSE) compounds and substation locations. Also shows local authority boundaries.
Consultation Plans Master Key Plan	Allows the user to locate the Project and shows the 2024 draft Order Limits. It shows Project section indexes to enable the user to navigate to the relevant specific plan set of interest to them. Also shows local authority boundaries.
Consultation Plans	These plans provide a detailed overview of the current proposals, divided over 89 sheets across eight sections at 1:2,500 scale. 1:2,500 scale has been used to provide the specific location of permanent assets and construction, operation, and maintenance areas, while also providing as much context of the surrounding area as possible. A key plan is also included for each section of the Project to help users quickly locate an area or sheet of interest along the length of the Project. The plans are ordered from north (existing Norwich Main Substation) to south (existing Tilbury Substation). The plans include the 2024 preferred draft alignment as currently envisaged (encompassing indicative locations for lattice pylons, overhead lines, underground cables centerline and construction swathe and CSE compounds), as well as the draft Order Limits. The plans show the indicative substation boundaries at the proposed East Anglia Connection Node (EACN) substation, the existing and proposed extensions at Norwich Main and Bramford Substations, as well as the existing Tilbury Substation.

[1] Figures, images, and plates provided in other consultation documentation are to be read within the context of the associated document.

Title	Description
	The plans also show the zone for permanent assets and zone for construction, operation, and maintenance.
Waveney Valley Alternative (WVA) Consultation Plan	An additional consultation plan showing the Waveney Valley Alternative, across two sheets at 1:2,500 scale. A key plan is also included at 1:7,500 scale. The Waveney Valley Alternative plan is a repeat of the Consultation Plan format as described above but showing the detail of the alternative design comprising of underground cables across the Waveney Valley with CSE compounds either side to enable the transition of overhead line to underground cable and back again. The plan provides the specific location of permanent assets and construction, operation, and maintenance areas, while also providing as much context of the surrounding area as possible.
Construction Access Master Key Plan	Allows the user to locate the Project and shows the proposed access routes for construction, referred to as Primary Access Routes. It shows Project section indexes to enable the user to navigate to the relevant specific plan set of interest to them, alongside displaying the local authority boundaries.
Construction Access Plans	These plans provide specific focus on the proposed routeing of construction traffic to access the construction areas, and include indicative areas of works required to the public highway to facilitate the construction of the Project including the indicative Highway Mitigation Draft Order Limits and areas where traffic management measures may be required. These plans comprise a total of 60 sheets at either 1:2500 or 1:5000 scale dependant on access route length. These plans do not show the draft Order Limits, these can be viewed on the Consultation Plans. A key plan is also included for each section of the Project to help users quickly locate an area or sheet of interest along the length of the Project.
Environmental Constraints Plans	These plans provide the specific location of permanent assets as per the Consultation Plans, divided over 89 sheets across eight sections at 1:2,500 scale. Key Plans are also included for each Project Section at various scales. The plans show the current permanent asset proposals and draft Order Limits for the Project and some

Title	Description
	environmental, third party and National Grid constraints within proximity of the 2024 preferred draft alignment. The constraints shown include: • Listed buildings; • Scheduled Monuments; • Conservation Areas; • Registered Park and Gardens; • Countryside and Rights of Way (CRoW) – conclusive registered common land/access land; • National Landscapes (previously AONBs); • Special Areas of Conservation (SAC); • Sites of Special Scientific Interest (SSSI); • Proposed Thames Estuary SSSI notification project; • County Wildlife Sites (cover Norfolk and Suffolk) Local Wildlife Sites (cover Essex) (both designations have the same level of protection); • Ancient Woodland; • Flood Zone 3; • National Gas pipelines and sites; • Existing 400 kV overhead lines; and • Existing 132 kV overhead lines.
Waveney Valley Alternative (WVA) Environmental Constraints Plan	An additional Environmental Constraints plan showing the Waveney Valley Alternative, across two sheets at 1:2,500 scale. The Waveney Valley Alternative Environmental Constraints plan is a repeat of the Environmental Constraints plan format as described above but showing the detail of the alternative design comprising of underground cables across the Waveney Valley with CSE compounds either side to enable the transition of overhead line to underground cable and back again. The plan provides the specific location of permanent assets and construction, operation, and maintenance areas, while also providing as much context of the surrounding area and constraints as possible.

Title	Description
Site Layout Drawings	The site layout drawings provide a more detailed look at the Project substations and CSE compounds. These plans indicate the location of the permanent CSE compounds, existing substations and extensions, and the proposed EACN substation and the works that are anticipated in the vicinity of each site to support construction and ongoing operation. This includes: • Temporary access routes (for construction); • Permanent access routes (for ongoing operation and maintenance); • Construction compounds for storage of plant and materials, and siting welfare areas during the construction phase; • Drainage areas (including attenuation or infiltration ponds and outfalls to watercourses, where required) – these are shown for temporary and permanent works; and • Permanent earthworks bunds (these are included to indicate that there will be permanent landscaping with material arising from site – the shape and location of bunds has not yet had landscaping design input). The drawings also show the draft Order Limits, within which the above features may move to accommodate changes as the design and understanding of the site develops.

4. What do the plans show?

4.1 Project Sections

4.1.1 The Project has been subdivided into eight sections which largely align to local authority boundaries. Within each section there is an overhead line route with its route specific pylon numbering sequence (RG, JC, and TB) as set out below. Every overhead line route in the country has a unique identifying numbering sequence for ease of reference. As the Project currently has three individual transmission routes[2] there is a sequence for each so that these can be referenced by the public when providing feedback:

- Section A – South Norfolk Council (RG);
- Section WVA – South Norfolk Council and Mid Suffolk District Council (RG WVA);
- Section B – Mid Suffolk District Council (RG and JC);
- Section C – Babergh District Council and Tendring District Council (JC and TB);
- Section D – Colchester City Council (TB);
- Section E – Braintree District Council (TB);
- Section F – Chelmsford City Council (TB);
- Section G – Basildon Borough Council and Brentwood Borough Council (TB); and
- Section H – Thurrock Council (TB).

4.1.2 An additional “Section J” is included on the Construction Access Plans to reflect the incorporation of a Primary Access Route from the A11 near Thetford that is necessary for the construction of the Waveney Valley Alternative.

4.1.3 Figure 4.1 and Figure 4.2 below highlight the breakdown of the Project sections.

[2] Pylon and gantry numbering is sequential from north to south with a two letter prefix. The prefix is RG for the section from Norwich to Bramford, JC from Bramford to the EACN substation and TB from the EACN substation to Tilbury.

Figure 4.1 – Master Key Plan: Project Sections

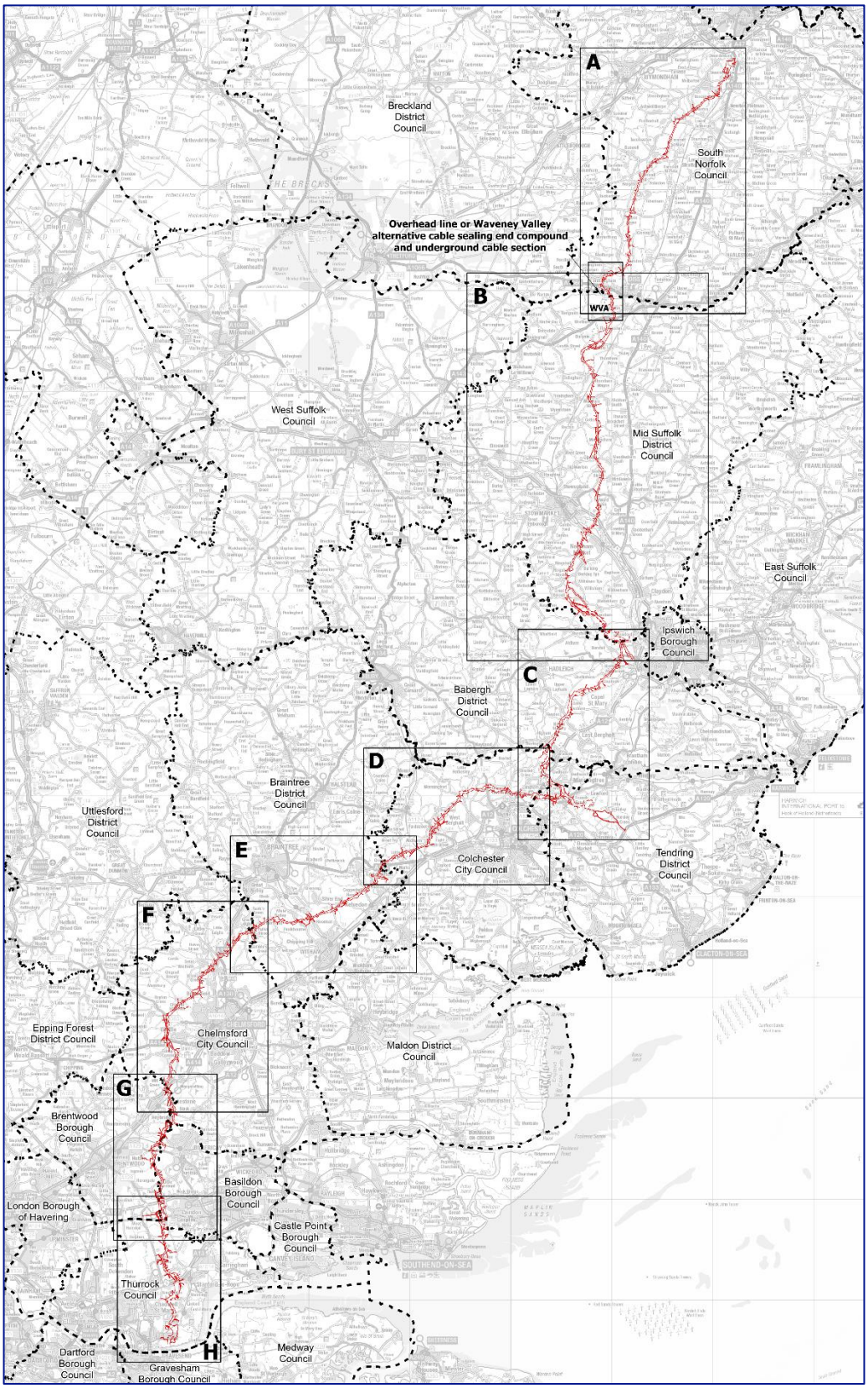
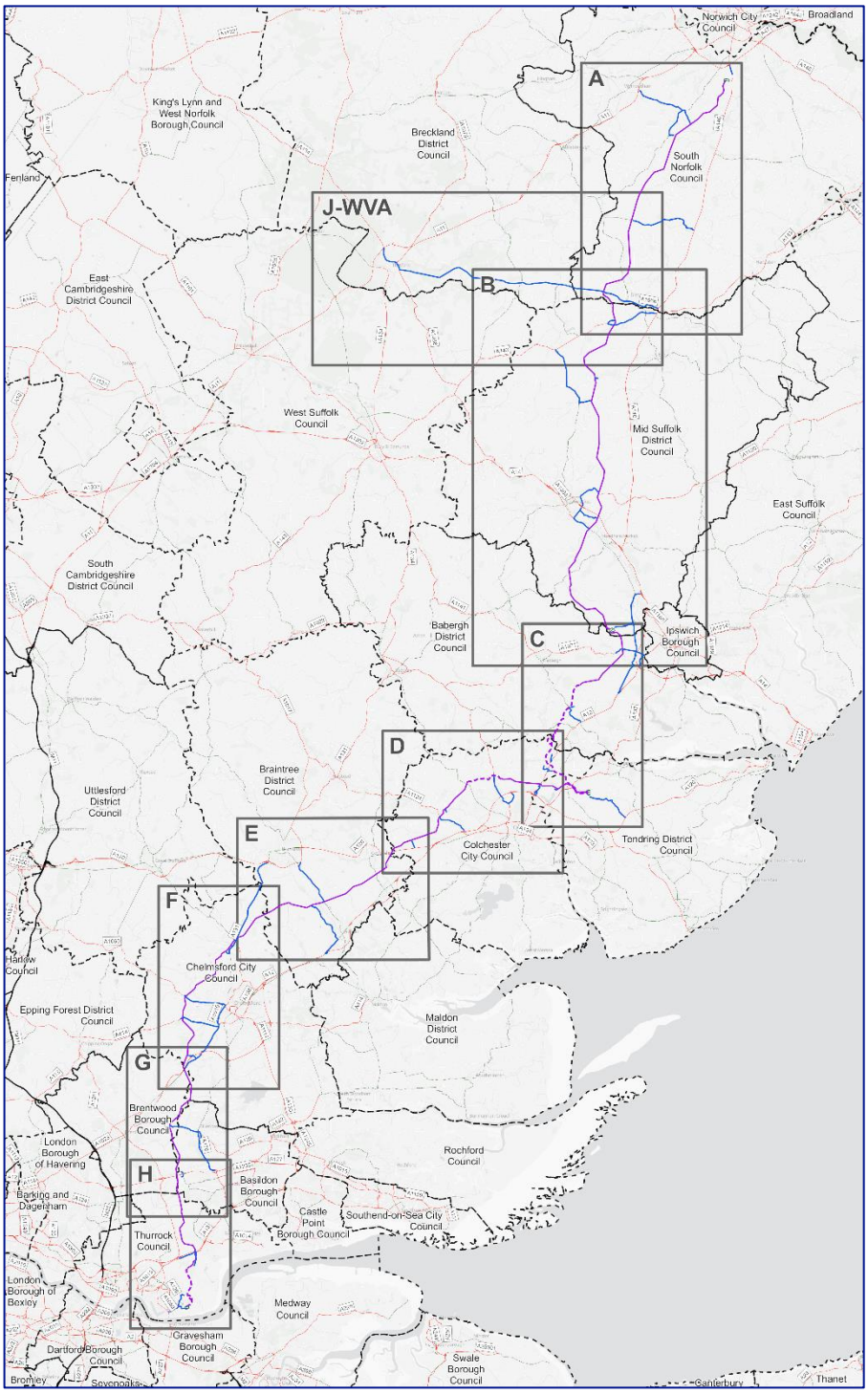


Figure 4.2 – Construction Access Plan Master Key Plan: Project Sections



4.2 The 2024 preferred draft alignment

4.2.1 Certain consultation plans use the term 2024 preferred draft alignment when describing the route.

4.2.2 The 2024 preferred draft alignment is a concept used to help communicate the potential route of the Project and has been developed as a result of feedback obtained during the 2022 and 2023 non-statutory consultations, ongoing engineering design and environmental assessment work to date. It encompasses indicative locations for lattice pylons, overhead lines, underground cables, CSE compounds and the EACN substation and the works at the existing substations at Norwich, Bramford and Tilbury.

4.2.3 The 2024 preferred draft alignment shown on these consultation plans is subject to change following consideration of consultation feedback and ongoing design development.

4.2.4 Moving forwards, National Grid will not be seeking approval, through the development consent order process, for a specific alignment (including fixed pylon locations). Approval will instead be sought to construct and operate the Project within parameters, known as LoD [See Section 4.5].

4.3 2024 preferred draft alignment underground cables

4.3.1 Further to the 2023 non-statutory consultation, which only showed an indicative line for the proposed route of the underground cables, the 2024 preferred draft underground cable alignment shows the construction swathe for the proposed underground cables.

4.3.2 There are two sections of underground cable shown on our plans where the underground cable is shown to ‘split’ and follow two corridors, these sections are within the Dedham Vale National Landscape (an AONB) and at Tilbury, further details provided below. All split sections shown are proposed to have underground cables installed, not in one or the other.

Dedham Vale National Landscape (an AONB)

4.3.3 As the proposed underground cable route passes through the Dedham Vale National Landscape (an AONB), it must cross the River Stour at a proposed location to the west of Stratford St Mary. At this location there are existing constraints in the form of a Source Protection Zone, an existing high-pressure gas pipeline and various ponds in between the two corridors. The 2024 preferred draft alignment has therefore been ‘split’ for the potential to utilise two corridors to avoid these constraints.

Tilbury

4.3.4 The proposed underground cable route must cross the existing railway line to the north of Tilbury Substation near to Cooper Shaw Road. Due to the presence of existing overhead line pylons, it has not been possible to identify one corridor wide enough for the required trenchless installation. The 2024 preferred draft alignment has therefore been ‘split’ either side of existing overhead line pylons to enable the crossing of the railway line.

4.4 Draft Order Limits

4.4.1 The maximum extent of land within which the Project, may be carried out, and includes both permanent and temporary land required to build and operate the Project.

4.5 Limits of Deviation

4.5.1 LoD represent the maximum deviation for permanent infrastructure. The LoD allow for the adjustment to the final positioning of the Project features to avoid localised constraints or unknown or unforeseeable issues that may arise.

4.5.2 Site specific LoD increases noted in Section 7.2.

5. Key Features

The key features shown on the various plans for consultation are summarised in the following tables:

Table 5.1 – Overall Location Plan Key Features

Key Features	Overview
2024 preferred draft alignment	This term is used to help communicate the potential alignment of the Project within the plans. It is the design as shown on the Consultation Plans, which has been developed through an iterative design process including engineering and environmental inputs alongside feedback received through consultation.
Overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
CSE compounds	Compounds containing equipment needed to transfer transmission circuits between underground cables and overhead lines.
Underground cabling	Insulated conductors carrying electric current designed for underground installation.
Existing and proposed substations	Project substations. Where existing, extended, or new substations are located. Substations are used to control the flow of power through the electricity system. They are also used to change (or transform) the voltage from a higher to lower voltage to allow it to be transmitted to local homes and businesses

Table 5.2 – Consultation Master Key Plan Key Features

Key Features	Overview
Draft order limits	Red line boundary extents of the Project.

Table 5.3 – Consultation Plans (including the Waveney Valley Alternative Consultation Plan) Key Features

Key Features	Overview
Draft order limits	Red line boundary extents of the Project.
Zone for permanent assets	Shows the areas of the draft Order Limits that may contain new permanent infrastructure (i.e. pylons, conductors, underground cables, CSE compounds, substations, permanent accesses, and environmental mitigation. For the National Grid works only (not third-party statutory undertaker's works).
Zone for construction, operation, and maintenance	Shows the areas of the draft Order Limits that are required for the construction, operation, and maintenance of the Project. This reflects National Grid and Statutory Undertaker works.
Statutory undertaker works	Indicative work areas required to divert, underground or protect existing third-party statutory undertaker assets, in order to facilitate the Project. e.g. communications and electricity wood pole overhead lines, electricity lattice pylon overhead lines and buried pipelines (gas, oil, sewage, and water etc).
Environmental Areas	Preliminary areas identified for environmental mitigation and/or Biodiversity Net Gain (BNG). Generally located at substations and cable sealing end compounds. As further baseline data is collected, and discussions take place with consultees and landowners, the Environmental Areas will be refined.
2024 preferred draft alignment	This term is used to help communicate the potential alignment of the Project within the plans. It is the design as shown on the Consultation Plans, which has been developed through an iterative design process including engineering and environmental inputs alongside feedback received through consultation.
Overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
Pylons	Structures that support the overhead line (conductors). There are two types of lattice pylons; suspension, where the conductors are simply suspended from the pylon and

Key Features	Overview
	tension (angle), where the overhead line changes direction.
Gantries	An overhead bridge-like structure supporting electrical equipment (these are lower height structures - typically up to 15 m in height). A transition point from overhead line equipment to equipment in a substation or cable sealing end compound.
Full Line Tension Gantries	A slightly larger gantry structure (these are lower height structures - typically up to 15 m in height) for supporting full line tension loading. A transition point from overhead line equipment to equipment in a substation or cable sealing end compound. A full line tension gantry however allows a longer span from the last pylon to the CSE compound / substation.
CSE compounds	Compounds containing equipment needed to transfer transmission circuits between underground cables and overhead lines.
Underground cable	Insulated conductors carrying electric current designed for underground installation.
Underground cable swathe centreline	The indicative centreline for the underground cable construction swathe.
Underground cable construction swathe	Typically, a 120 m wide swathe to allow for installation of the cable, through standard opencut methods. The construction swathe widens where trenchless methods are anticipated.
Underground cable trenchless crossing	Locations where the underground cable installation method is proposed as trenchless (or potentially so) e.g. under main rivers and railways.
Substation boundary	Proposed substation boundaries. Where existing, extended, or new substations are positioned. Includes the existing substation boundaries at Norwich Main (including extension), Bramford (including extension) and Tilbury substations. Also, the proposed EACN substation.
Permanent access route	Permanent operation and maintenance access – physical access road to cable sealing end compounds and substations.

Key Features	Overview
Existing DNO alignments (to be modified/dismantled)	Shows specific Distribution Network Operator (DNO) lattice pylon alignments and pylon positions to be dismantled/modified.
Haul roads	Temporary roads provided outside of the existing Public Highway. These routes will be managed by National Grid and link the site access points to the working areas. For access to construction works on overhead lines, underground cables, CSE compounds and substations.
Site access points (bellmouths)	The location on a Primary Access Route where construction vehicles will transition between the local road network (LRN) and haul roads/working areas.
Crossover points	Locations where haul roads cross the LRN but are not generally proposed for construction HGVs to transition to or from the LRN.
Visibility splays	An area proposed to be kept clear of visual obstructions that would impact the ability to see approaching traffic at a junction.
Crossing protection work area	Work area required to install scaffolding – required to provide a netted protection of crossings when installing the conductors (e.g. public highways and railways crossings).
Construction compound	The type, size and what is included at each compound is subject to the works it is facilitating but may include for example: the working yard / storage area, parking, offices, reception, break out areas, toilets/showers/changing facilities, kitchen/canteen, visitors centre, induction/training room and drying room.
Construction laydown area	Areas identified for general construction activities (e.g. for temporary holding of materials).

Table 5.4 – Construction Access Master Key Plan Key Features

Key Features	Overview
2024 preferred draft alignment	This term is used to help communicate the potential alignment of the Project within the plans. It is the design as shown on the Consultation Plans, which has been developed through an iterative design process including engineering and environmental inputs alongside feedback received through consultation.

Key Features	Overview
Overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
Underground cable swathe centreline	The indicative centreline for the underground cable construction swathe.
Primary Access Route	An access route designated for use by construction vehicles along the public highway (typically for Heavy Goods Vehicles (HGVs) to travel from the Strategic Road Network to a Site Access Point
A Road	Major roads intended to provide large-scale transport links within or between areas, defined by the Department for Transport
B Road	Roads intended to connect different areas, and to feed traffic between A roads and smaller roads on the network, defined by the Department for Transport

Table 5.5 – Construction Access Plans Key Features

Key Features	Overview
Highway mitigation	A ranked scale for the level of mitigation works anticipated to be required to the public highway to facilitate construction traffic access for the Project.
Indicative highways mitigation draft order limits	A red line boundary denoting the anticipated extent of land required for highway works relating to the project, where works are anticipated to be extend beyond the public highway boundary.
2024 preferred draft alignment	This term is used to help communicate the potential alignment of the Project within the plans. It is the design as shown on the Consultation Plans, which has been developed through an iterative design process including engineering and environmental inputs alongside feedback received through consultation.
Overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
Underground cable swathe centreline	The indicative centreline for the underground cable construction swathe.
Site Access Point	The location on a Primary Access Route where construction vehicles will transition between the LRN and haul roads/working areas.

Key Features	Overview
Sheet Match Line	The Construction Access plans use an alternative approach to convey the relationship between preceding and succeeding plans along the alignment of the proposed construction access routes. Instead of using a black continuation line, a “Match Line” symbol is used.

Table 5.6 – Constraint Plans Key Features

Key Features	Overview
2024 preferred draft alignment	This term is used to help communicate the potential alignment of the Project within the plans. It is the design as shown on the Consultation Plans, which has been developed through an iterative design process including engineering and environmental inputs alongside feedback received through consultation.
Overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
Pylons	Structures that support the overhead line (conductors). There are two types of lattice pylons; suspension, where the conductors are simply suspended from the tower and tension (angle), where the overhead line changes direction.
Gantries	An overhead bridge-like structure supporting electrical equipment (these are lower height structures - typically up to 15 m in height). A transition point from overhead line equipment to equipment in a substation or CSE compound.
Full Line Tension Gantries	A slightly larger gantry structure (these are lower height structures - typically up to 15 m in height) for supporting full line tension loading. A transition point from overhead line equipment to equipment in a substation or cable sealing end compound. A full line tension gantry however allows a longer span from the last pylon to the CSE compound / substation.
CSE compound	Compounds containing equipment needed to transfer transmission circuits between underground cables and overhead lines.
Underground cable	Insulated conductors carrying electric current designed for underground installation.

Key Features	Overview
Underground cable swathe centreline	The indicative centreline for the underground cable construction swathe.
Underground cable construction swathe	Typically, a 120 m wide swathe to allow for installation of the cable, through standard opencut methods. The construction swathe widens where trenchless methods are anticipated.
Substation boundary	Proposed substation boundaries. Where existing, extended, or new substations are positioned. Includes the existing substation boundaries (including extensions where relevant) at Norwich Main, Bramford and Tilbury substations. Also, the proposed EACN Substation.
Environmental Constraints	See plan legend in Table 6.77 – Constraint Plan Legend Symbology

Table 5.7 – Site Layout Drawings Key Features

Key Features	Overview
Draft order limits	Red line boundary extents of the Project.
Underground cable construction swathe	Typically, a 120 m wide swathe to allow for installation of the cable, through standard opencut methods. The construction swathe widens where trenchless methods are anticipated. This swathe includes the underground cable construction haul road.
Underground cable swathe centreline	The indicative centreline for the underground cable construction swathe.
CSE compound boundary	Extent of proposed CSE compounds. CSE compounds contain equipment needed to transfer transmission circuits between underground cables and overhead lines.
Existing substation boundary	Norwich Main Substation: Extent of existing substation (limited works)
At Bramford Substation, legend includes the supplementary text "(to contain proposed project works)"	Bramford Substation: Area containing existing substation and a previously levelled hardstanding area adjacent to the existing substation.

Key Features	Overview
Proposed substation extension boundary	Norwich Main Substation: Extent of new substation works (proposed as part of a separate project)
At Bramford Substation, legend includes the supplementary text "(to contain proposed project works)"	Bramford Substation: Extension to existing levelled hardstanding area adjacent to the existing substation.
Proposed substation boundary	Extent of proposed EACN substation
Substation boundary	Specific to Tilbury Substation: Extent of existing substation. Note that proposed works to the substation will remain within the existing boundary.
Temporary construction compound	The type, size and what is included at each compound is subject to the works it is facilitating but may include for example: the working yard / storage area, parking, offices, reception, break out areas, toilets/showers/changing facilities, kitchen/canteen, visitors centre, induction/training room and drying room.
Temporary construction compound (additional)	Specific to the EACN substation: An additional area allocated for storage of plant/materials and other activities to support construction. This additional compound area recognises the significant amount of activity (overhead line, underground cable and substation works) that will be required at the location of the EACN substation.
Approximate fill/cut earthworks extents	The approximate extent of slopes required to achieve a level CSE compound / substation site within the existing topography.
Permanent spoil bund	Areas to indicate the requirement for landscaping using excavated material arising from site. The shape and location of bunds has not yet had landscaping design input.
Permanent CSE compound / substation access route	Access road to CSE compound / substation for ongoing operation and maintenance requirements.
Temporary CSE compound / substation haul road	Temporary access haul road to CSE compound / substation for construction works.

Key Features	Overview
Temporary overhead line haul road	Temporary access haul road to reach overhead line works, where access is required via CSE compound / substation locations.
Permanent surface water attenuation drainage pond	Ponds for storage of surface water runoff from the CSE compound / substation and permanent access roads in order to control rate of discharge to watercourses (or to allow infiltration back into the ground if conditions are suitable).
Temporary surface water attenuation/infiltration drainage pond	Ponds for storage of surface water runoff from the temporary construction compound and temporary access roads in order to control rate of discharge to watercourses (or to allow infiltration back into the ground if conditions are suitable).
Permanent/temporary drainage outfall alignment	Indicative route for drainage of surface water to/from attenuation ponds.
Outfall location	Location for discharge of surface water runoff to a watercourse (at agreed rates).
Manhole location	Potential location for maintenance access to drainage outfall alignment.
New overhead lines	Conductors (wires) carrying electric current, strung from pylon to pylon.
Overhead line pylon construction area	Working area for construction of pylons.
Existing pylons to be retained	Pylons, which are to be retained, that are in close proximity to the underground cable alignment or otherwise in the vicinity of the substation. These features are only shown on the Tilbury Substation drawing because they have particularly influenced the layout in this area.

6. Symbology

6.1.1 The key features shown on the Legend of the various plans for consultation are illustrated in the following table. Note the features shown within the Legend are applicable to any relevant key features of the whole section rather than the individual sheets (i.e. the whole of Section A, not a specific sheet within Section A). Additionally, each table depicts the legend of the whole plan set, i.e. all section consultation plans, rather than each individual section.

Table 6.1 – Overall Location Plan Legend Symbology

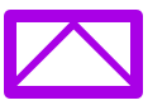
Key Features	Legend Entry	Symbol
	Local authority boundary[3]	
Proposed project design details	New overhead line	
	New underground cable	
	Substation existing & new	
	New cable sealing end compound	

Table 6.2 – Consultation Master Key Plan Legend Symbology

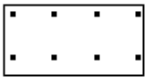
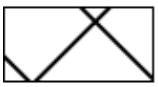
Key Features	Legend Entry	Symbol
	Local authority boundary[3]	
	Section index	
Proposed project design details	Draft order limits	

[3] Local authority boundaries shown exclude counties.

Table 6.3 – Consultation Plans (including Waveney Valley Alternative Consultation Plan) Legend Symbology

Key Features	Legend Entry	Symbol
	Local authority boundary[4]	
	Section boundary & local authority boundary	
	Section boundary	
	Sheet index cutlines	
	Sheet index	
Proposed land use	Draft order limits	
	Zone for permanent assets (NGET)	
	Zone for construction, operation, and maintenance (NGET and statutory undertaker)	
	Statutory undertaker works	
	Environmental areas	
Proposed project design details	New lattice pylon	
	New gantry	
	New full line tension gantry	
	New overhead line	

[4] Local authority boundaries shown exclude counties.

Key Features	Legend Entry	Symbol
	New underground cable swathe centreline	
	New underground cable construction swathe	
	New underground cable trenchless crossing	
	Existing substation boundary	
	Proposed substation extension boundary / Proposed EACN substation boundary	
	Cable sealing end compound boundary	
	Permanent access route including visibility splays (substations and cable sealing end compound)	
	Existing DNO lattice pylon – to be dismantled[5]	
	Existing DNO lattice pylon – to be modified	
	Existing DNO overhead line – to be dismantled	
	Existing DNO overhead line – to be modified	
Temporary works	Site access, crossover points and visibility splays	
	Haul roads	
	Haul roads for underground cable, cable sealing end compounds and substation works	

[5] Where known DNO lattice pylon numbers are provided on the consultation plans.

Key Features	Legend Entry	Symbol
	Crossing protection work area	
	Construction compound	
	Construction laydown area	

Table 6.4 – Construction Access Master Key Plan Legend Symbology

Key Features	Legend Entry	Symbol
	Section index	
	Local authority boundary[6]	
Existing roads	A road	
	B road	
	Motorway	
Proposed project design details	Existing / proposed extension or proposed new substation boundary	
	New overhead line	
	New underground cable swathe	
	Primary access route (no works anticipated)	

Table 6.55 – Construction Access Key Plan Legend Symbology

Key Features	Legend Entry	Symbol
	Sheet Index	

[6] Local authority boundaries shown exclude counties.

Key Features	Legend Entry	Symbol
	Local authority boundary[7]	
	Section boundary and local authority boundary	
	Section boundary	
Existing roads	A road	
	B road	
Proposed project design details	Existing / proposed extension or proposed new substation boundary	
	New overhead line	
	New underground cable swathe	
	Primary access route (no works anticipated)	

Table 6.66 – Construction Access Plan Legend Symbology

Key Features	Legend Entry	Symbol
	Sheet match line	Match Line
Existing land boundary	Local authority boundary[7]	
Proposed land use	Indicative highway mitigation draft order limits	
Proposed project design details	Existing, proposed extension or proposed new substation boundary	
	Primary access route (no works anticipated)	
	Proposed new private access road	
	New underground cable swathe centreline	

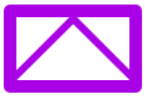
[7] Local authority boundaries shown exclude counties.

Key Features	Legend Entry	Symbol
	New overhead line	
	New lattice pylon	
Temporary works	Vegetation removal / cutting back / temporary traffic regulation orders	
	Modifications to existing highway features	
	Work within the existing highway boundary	
	Work outside the existing highway boundary. Based upon assumption of highway boundary extents	
	Site access point (bellmouth)	

Table 6.77 – Constraint Plan Legend Symbology

Key Features	Legend Entry	Symbol
	Local authority boundary[8]	
	Section boundary & local authority boundary	
	Section boundary	
	Sheet index cutlines	
	Sheet index	
	Draft order limits	

[8] Local authority boundaries shown exclude counties.

Key Features	Legend Entry	Symbol
	New lattice pylon	
	New gantry	
	New full line tension gantry	
	New overhead line	
	New underground cable swathe centreline	
	New underground cable construction swathe	
	Cable sealing end compound outline	
	Existing substation boundary	
	Proposed substation extension boundary/ Proposed EACN substation boundary	
	Grade I listed building	
	Grade II listed building	
	Grade II* listed building	
	Scheduled Monument (with accompanying list entry number)	
	Conservation areas	
	Registered parks and gardens	

Key Features	Legend Entry	Symbol
	Countryside and Rights of Way Open Access Land	
	National Landscapes (an AONB)	
	Special Areas of Conservation	
	Sites of Special Scientific Interest (including Thames Estuary Site of Special Scientific Interest notification project)	
	Ancient woodland	
	County / local wildlife sites	
	Flood zone 3	
	National Grid 275/400kV overhead line	
	UKPN 132kV overhead line	
	National Grid underground cable	
	National Grid Gas Pipeline	
	National Grid Gas Site	

Table 6.88 – Site Layout Drawings Legend Symbology

Key Features	Legend Entry	Symbol
	Draft order limits	
	Underground cable construction swathe (including cable construction haul road)	
	Underground cable swathe centreline	

Key Features	Legend Entry	Symbol
	Existing substation boundary *At Bramford Substation, legend includes the supplementary text "(to contain proposed project works)"*	
	Proposed substation/substation extension boundary *At Bramford Substation, legend includes the supplementary text "(to contain proposed project works)"*	
	Substation boundary	
	Cable sealing end compound boundary	
	Temporary construction compound	
	Temporary construction compound (additional if required)	
	Approximate exclusion zone for existing overhead lines	
	Approximate fill earthworks extents	
	Approximate cut earthworks extents	
	Permanent spoil bund[9]	
	Permanent cable sealing end compound access route	
	Temporary cable sealing end compound haul road	
	Temporary overhead line haul road	

[9] Spoil bunds are represented to demonstrate the requirement for permanent bunding of soil arising from the site area. These are still to be designed and are subject to further assessment. These will be integrated into the bio-diversity net gain and landscaping design.

Key Features	Legend Entry	Symbol
	Permanent surface water attenuation drainage pond	
	Temporary surface water attenuation drainage pond	
	Temporary surface water infiltration pond	
	Permanent drainage outfall alignment	
	Temporary drainage outfall alignment	
	Outfall location	
	Manhole location	
	New overhead line	
	Overhead line pylon construction area	
	Existing pylons to be retained	

7. Plan Specific Commentary

7.1 Introduction

7.1.1 This section describes any specific nuances or site-specific commentary for each consultation plan that may aide the viewer when reviewing the plans.

7.2 Consultation Plans

7.2.1 The Consultation Plans focus on each of the Project sections in detail, showing the draft Order Limits and intended works at a more local scale.

7.2.2 In six locations the draft Order Limits/ LoD have been expanded to encompass worst case scenarios for locations not yet fixed at statutory consultation:

- Exiting Norwich Main (Section A – Sheet 1), the overhead line as a part of the 2024 preferred draft alignment routes around the west of Sprow's Pit copse (RG001 to RG007). The draft Order Limits in this location have been widened to the east to allow flexibility to change the 2024 preferred draft alignment should planning consent not be granted for a battery storage facility to the south of the substation.
- River Stour (Section C – Sheet 8), assumes a worst-case that two trenchless crossing locations of the River Stour are required. Further environmental baseline data, ground investigations and engagement with stakeholders are ongoing. Subject to this additional work, it may be determined that a single crossing within the Source Protection Zone 1 would be taken forward.
- East of the A12 (Section C – Sheet 16), the draft Order Limits have been widened at between TB020 and TB021 as there are a number of planning applications associated with the Flying Trade Group and Crown Quarry Developments adjacent to the A12 between TB020 and TB021. The widened order limits are to allow flexibility for an alternative alignment should the distribution warehouses be consented.
- West of Kelvedon (Section E – Sheet 3), the 2024 preferred draft alignment was straightened out between TB081 and TB086. The draft order limits have been widened in this location to allow flexibility to change the 2024 preferred draft alignment to reduce impacts on a potential mineral extraction site should it be identified as being an allocated site in a future mineral plan.
- South of Rivenhall (Section E – Sheet 4), the draft Order Limits have been widened at TB091 to TB094. This has been included to allow flexibility to amend the 2024 preferred draft alignment which currently avoids proposed solar farm development. Should the proposed solar farm not be granted planning consent there is flexibility for the alignment to be amended.
- South of the A13 (Section H – Sheet 4), between TB254 and TB260 that reduces effects on the proposed Southfields development. The draft Order Limits have been widened between TB254 and TB260 to allow flexibility if the housing development does not go ahead, as the alignment could then move to the west, removing two

crossings of Buckingham Hill Road, a crossing of a historic landfill site and pylons situated within parkland and a quarry site.

7.2.3 We are seeking feedback on five additional haul road options which would provide flexibility for the Project should the existence of constraints or third-party developments require it:

- Thorpes Hill (Section C – Sheet 3), alternative access off Thorpes Hill in case haul road over Belstead Brook and through sensitive environment site is not feasible, to access JC016 onwards.
- EACN substation eastern access (Section C – Sheets 13 & 14), currently two proposed access into the new proposed EACN substation, with a northern route utilising more of the existing road network providing construction and operational and maintenance access, and a southern route sharing customer connections access for construction works if this route is available.
- Faulkbourne (Section E – Sheet 5), portion of the haul road between TB098 to TB101 shows two haul roads due to the constraint of the River Brain, and whether an existing ford crossing is feasible or if there is a requirement to construct a new bridge closer to the alignment of the new overhead line.
- Chelmsford Bypass (Section F – Sheet 2), additional haul road spur to return the haul road to the public highway on Braintree Road if the third-party highways development does go ahead, which would sever the currently proposed haul road running along the route of the new overhead line.
- Dunton Hills Garden Village (DHGV) [Section G/H – Sheet 6], additional haul road spur coming off Tilbury Road going via the third-party housing development (site specific details unknown so haul road provided as a placeholder only, siting subject ongoing consultation with the developer).
- Housing Development, East of DHGV (Section G – Sheet 7), currently showing two haul road options, one coming off Dunton Road and another off Lower Dunton Road which would adopt the road as a part of the third-party housing development (site specific details unknown so haul road provided as a placeholder only, siting subject ongoing consultation with the developer).

7.2.4 In addition, in various locations along the project, the draft Order Limits have been reduced due to known constraints flagged during engineering and environmental assessments. Below highlights several examples:

- Ancient woodlands (Figure 7.1 and Figure 7.2);
- Watercourse crossings (Figure 7.3); and
- Private gardens (Figure 7.4 and Figure 7.5).

Figure 7.1 – Reduction of draft Order Limits by proposed pylon RG171 due to proximity of an ancient woodland.

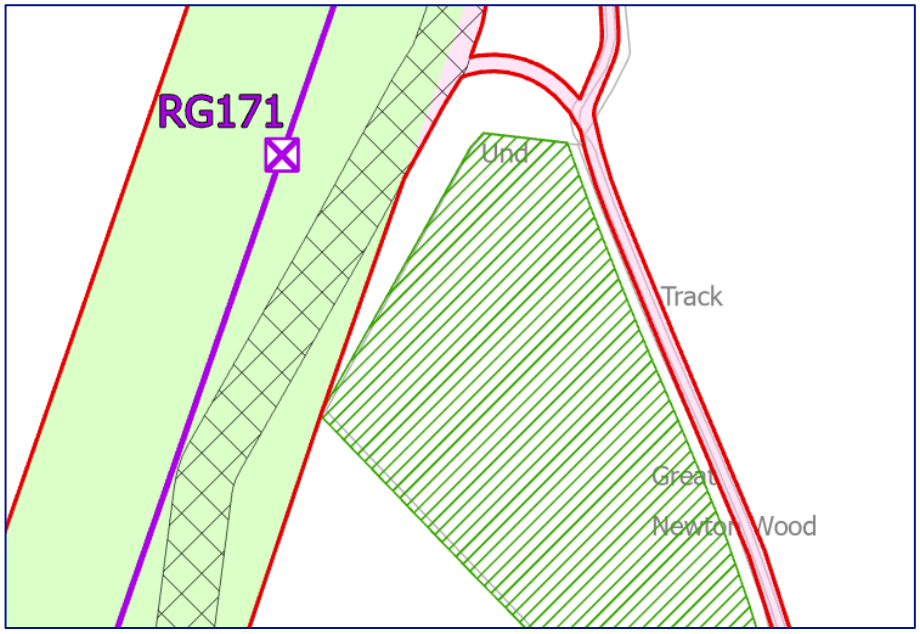


Figure 7.2 – Reduction of draft Order Limits by proposed pylon TB182 due to proximity of an ancient woodland.

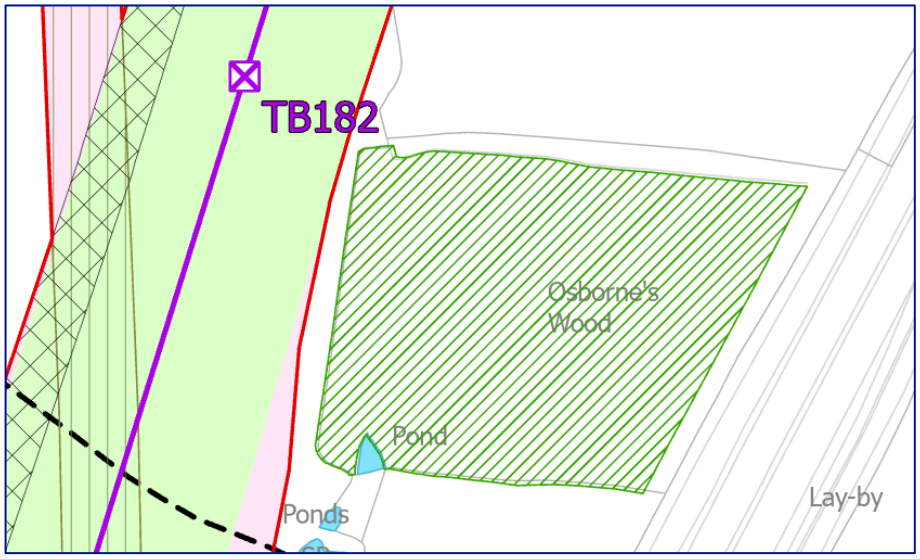


Figure 7.3 - Reduction of draft Order Limits at Black Brook for the watercourse crossing and residential properties.

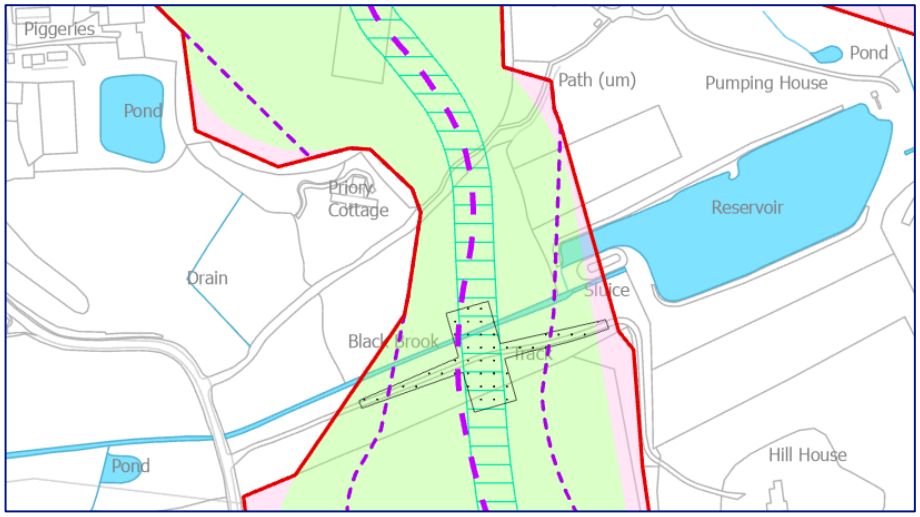


Figure 7.4 – Reduction of draft Order Limits south of Langham Hall for private residential property and gardens.

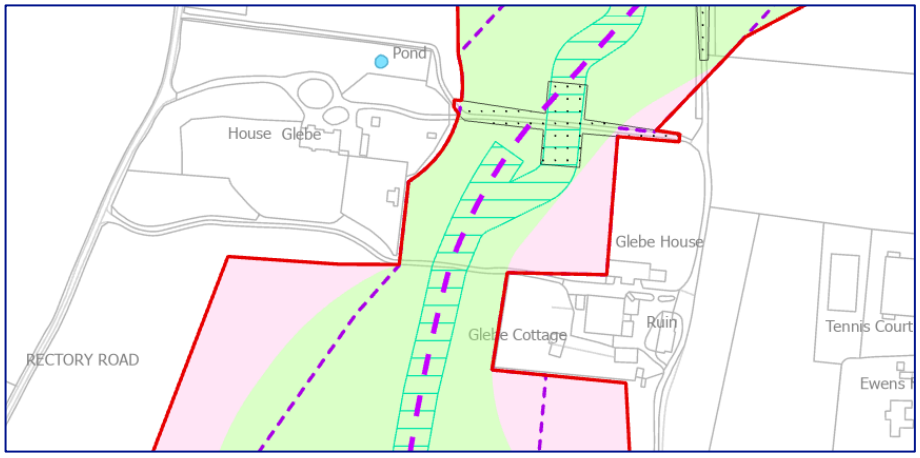


Figure 7.5 – Reduction of draft Order Limits at Parney Heath for private residential gardens.

7.2.5 Within the underground cable sections, the haul road would generally be positioned central to the alignment i.e., with underground cable trenches located either side of the haul road. In some locations, overhead line construction corridors would require access from the underground cable alignment corridors. In these locations, an overhead line bypass haul road is proposed to be constructed adjacent and parallel to the cable construction corridor to access the overhead line works directly. This would be provided to safely separate the overhead line construction vehicle movements from the works associated with the cable corridor construction.

7.2.6 Temporary construction compounds have been labelled on the plans by the reference ID highlighted in Table 7.1. The following types of compounds are proposed to facilitate construction of the Project:

- Main works compounds (overhead line);
- Satellite compounds (overhead line);
- Primary cable compounds;
- Secondary cable compounds;
- Tertiary cable and CSE compounds; and
- Substation compounds.

Table 7.1 - Proposed Construction Compounds

Compound Name (reference)	Project Section	Compound Type
Land to north of Norwich Substation, South Norfolk (RG-CC01)	Section A	Substation
Diss Road, near RG054, South Norfolk (RG-Sate1)	Section A	Satellite Compound (overhead line)
Land north of Fen Lane, Diss (RG-CC02)	Section A	Tertiary (CSE)
Land south of Fen Lane, Diss (RG-CC03)	Section A	Secondary (cable)
Land south of Ling Road, Diss (RG-CC04)	Section B	Tertiary (CSE)
Land south of Ling Road, Diss (RG-CC05)	Section B	Tertiary (cable)
Bury Road, near RG098, Mid Suffolk (RG-Main)	Section B	Main Works Compound (overhead line)
Site set back from Bells Lane, near RG150, Mid Suffolk (RG-Sate2)	Section B	Satellite Compound (overhead line)
Land to the east of Bramford Substation, Mid Suffolk (RG-CC06)	Section B	Substation

Compound Name (reference)	Project Section	Compound Type
Land east of Wenham Grove, north of Raydon (JC-CC01)	Section C	Tertiary (CSE)
Land off B1070, Babergh (JC-CC02)	Section C	Primary (cable)
Land south of Dedham Road, north of Langham (JC-CC03)	Section C	Secondary (cable)
Land south of Birchwood Road, to the west of Lamb Corner, Colchester (JC-CC04)	Section C	Primary (cable)
Land south of Little Bromley Road, Bradley Hall, Tendring (JC-CC05)	Section C	Secondary (cable)
Land at the EACN Substation, Tendring (JC-CC06)	Section C	Substation
Land east of Broad Lane, Colchester (TB-CC01)	Section D	Tertiary (CSE)
Land to the east of A134, Tye Green, Colchester (TB-CC02)	Section D	Tertiary (cable)
Land to west of A134, Tye Green, Colchester (TB-CC03)	Section D	Secondary (cable)
Land west of Crabtree Lane, north of Bellmead, Colchester (TB-CC04)	Section D	Tertiary (CSE)
Great Tey Road, near TB068, Colchester (TB-Sate1)	Section D	Satellite Compound (overhead line)
Land east of Fairstead Road, north of Fairstead (TB-CC05)	Section E	Tertiary (CSE)
Land west of Fairstead Road, north of Fairstead (TB-CC06)	Section E	Secondary (cable and CSE)
Off Braintree Road, near TB130, Chelmsford (TB-Main)	Section F	Main Works Compound (overhead line)
Land east of A131, near Sheepcotes Wood (TB-CC07)	Section F	Tertiary (CSE and cable)
Off Brentwood Road, near TB220, Basildon (TB-Sate2A)	Section G	Satellite Compound (overhead line)
Lower Dunton Road, near TB230, Basildon (TB-Sate2B)	Section H	Satellite Compound (overhead line)
Site north of Holford Road, adjacent to Orsett Golf Course, Thurrock (TB-CC08)	Section H	Tertiary (CSE)

Compound Name (reference)	Project Section	Compound Type
Site north of Muckingford Road, Thurrock (TB-CC09)	Section H	Tertiary (cable)
Site south of Cooper Shaw Road, Thurrock (TB-CC10)	Section H	Primary (cable)
Site to east of Tilbury Substation, Thurrock (TB-CC11)	Section H	Secondary (cable)
Site south of Tilbury Substation, Thurrock (TB-CC12)	Section H	Substation

7.3 Waveney Valley Alternative Consultation Plans

7.3.1 For the Waveney Valley Alternative an additional set of plans has been provided, to highlight the specifics of this alternative. The Waveney Valley alternative section slots in between the crossover of Section A & B.

7.4 Construction Access Plans

7.4.1 Details the Primary Access Routes for construction traffic access, showing the proposed routing, anticipated highway mitigation works and associated highway mitigation order limits at a more local scale. Associated information regarding the construction access can be found in the Draft Outline Construction Traffic Management Plan (available on the Project website).

7.4.2 The Highway Mitigation Order Limits displayed on these plans have been provided as an indicative boundary associated with locations where the anticipated scale of mitigation identified includes work outside the existing highway boundary, based upon the assumed public highway boundary extents. These plans do not show the draft Order Limits, these can be viewed on the Consultation Plans.

7.4.3 An additional Section outside of Sections A to H (shown in Figure 4.2), referred to as Section J, has been included within the Construction Access Plan set for routing relating to the Waveney Valley Alternative (WVA). Under the WVA proposal, the Primary Access Routes within Section J would be promoted for use by larger construction vehicles. This is proposed to be used in combination with the other Primary Access Routes in this location serving the 2024 preferred draft alignment.

7.4.4 Existing overhead utilities crossing the Primary Access Routes may be impacted by the proposed construction vehicles. The locations and details of proposed statutory undertaker works associated with these crossings are not included at this stage of design within the Construction Access Plans.

7.4.5 The individual constraints are uniquely referenced using the convention of XYY whereby:

- X refers to the Section that the constraint is located in; and
- YY is the reference number of the constraint within that Section.

7.4.6 The Construction Access Plans include references to Primary Access Routes and site access points, these references can be interpreted using the following identification codes:

7.4.7 Primary Access Routes are referenced using a naming convention of HXX-AY whereby:

- H refers to the haul road that the Primary Access Route is serving;
- XX is the reference number of the haul road section being served, numbered in ascending order from north to south; and
- A denotes that this is a Primary access route.

7.4.8 Y is the reference number of the primary access route within the haul road section, numbered in ascending order from north to south. For example, H05-A2 represents Primary Access Route two accessing haul road number five.

7.4.9 Similarly, Site Access Points and Crossovers (bellmouth) have been allocated location identifiers in ascending order from north to south using the convention of XX-BZZZ whereby:

- XX refers to that section of route (either RG, JC, or TB); and
- B refers to the form of access being a bellmouth junction; and ZZZ refers to the junction reference number. These are numbered in ascending order from north to south.

7.5 Environmental Constraint Plans

7.5.1 For the Waveney Valley Alternative an additional set of plans has been provided, to highlight the specifics of this alternative. The Waveney Valley alternative section slots in between the crossover of Section A & B.

7.5.2 One of the constraints featured in this plan set as represented in the legend is Countryside and Rights of Way Open Access Land, which is a combination of two source layers:

- CRoW Conclusive Registered Common Land – Shows land mapped as Conclusive Registered Common Land under the Countryside and Rights of Way (CRoW) Act 2000. The CRoW Act gives the public right of access to land mapped as 'open country' (mountain, moor, heath and down) or registered common land; and
- CRoW Access Land – Shows land mapped as access land under CRoW. The CRoW Act 2000 gives the public right of access to land mapped as 'open country' (mountain, moor, heath and down) or registered common land.

7.5.3 Both layers above are known as ‘open access land’.

7.6 Site Layout Drawings

7.6.1 These site layout drawings provide a more detailed look at the Project substations and CSE compounds. These plans indicate the location of the permanent CSE compound or substation and the works that are anticipated in the vicinity each site to support construction and ongoing operation. These drawings should be read in conjunction with the Consultation Plans and Construction Access Plans.

8. How can I provide feedback using the consultation plans?

8.1.1 The consultation plans can be viewed on the Project website and at our public information events.

8.1.2 Your views are important to us and will help shape our plans as our project develops further. We welcome your feedback on all aspects of our design, including any geographical areas of interest.

8.1.3 You can provide your feedback through the following channels:

- Online: Fill in our feedback questionnaire online at: www.nationalgrid.com/norwich-to-tilbury.
- In paper copy: Visit us at one of our events to collect a paper copy feedback form, which can be completed and handed to the team. You can also collect a feedback form at a deposit location or request one by telephone or email.
- By email: You can send your comments or scanned electronic copies of our feedback questionnaire to contact@n-t.nationalgrid.com.
- By post: You can send your paper copy questionnaire or comments to: FREEPOST N TO T (please write this in capitals and you do not need a stamp).

8.1.4 You can use the consultation plans to identify geographical areas of interest along with the proposed new infrastructure in each section. You can then provide your feedback in the relevant section of the feedback questionnaire.

8.1.5 If you have any questions about the Project or require assistance with interacting with our consultation plans, please contact us using the details below:

- Email: contact@n-t.nationalgrid.com
- Freephone: 0800 915 2497

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