Welcome

Welcome to this public event for Five Estuaries and North Falls offshore wind farms' Joint Substations Design Guide (Design Guide).

We appreciate you taking the time to join us today for our first phase of engagement on the Design Guide.

These banners provide an overview of what the Design Guide is and what we are looking for your views on. Members from each project team are available to help and answer your questions.

The projects

FIVE ESTUARIES OFFSHORE WIND FARM

- Up to 79 wind turbine generators
- ~128km^2 offshore array area
- ~1GW generating capacity
- ~24km onshore export cable
- 1 onshore substation
- Consent decision expected in September 2025

fiveestuaries.co.uk

RWE ESB MACQUARIE Sumitomo Corporation

NORTH FALLS Offshore Wind Farm

- Up to 57 wind turbine generators
- ~ 95km^2 offshore array area
- ~1GW generating capacity
- ~24km onshore export cable
- 1 onshore substation
- Consent decision expected in January 2026

northfallsoffshore.com

RWE sse Renewables

North Falls and Five Estuaries are independent project companies with different shareholder makeups, each requiring their own Development Consent Orders (DCOs). Due to the proximity of the projects to each other a 'Good Neighbour Agreement' enables the projects to work collaboratively to reduce impacts and explore synergies.

Both projects have also signed a 'Cooperation Agreement' with National Grid regarding interactions and activities around the substation sites.

The Joint Substations Design Guide

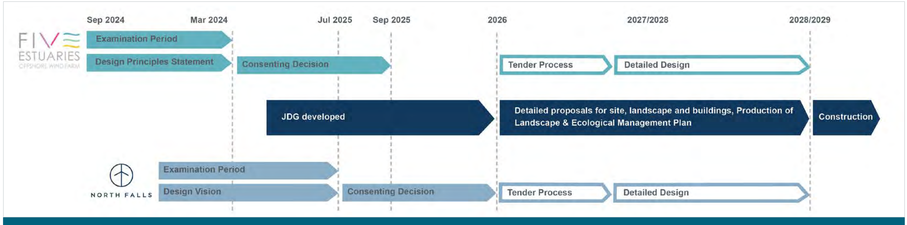
The Joint Substations Design Guide (Design Guide) is being prepared to support the development of detailed proposals for North Falls and Five Estuaries' co-located substation sites.

Prior to the submission of each project's Development Consent Order (DCO) application, Five Estuaries and North Falls prepared 'design approach documents' to outline individual plans and to evidence the 'good design' followed, in accordance with the overarching national planning policy for energy.

This Design Guide brings together the projects' individual approaches and plans into one combined document that, when finalised, will be issued to the commissioned substation designers to provide a framework for the final substation designs.

The purpose of the Design Guide and our engagement with surrounding communities is to:

- Outline the known or fixed elements dictated by technical and regulatory constraints.
- Understand local views on what the substations will look like and how they will sit within the surrounding landscape. For example, is maintaining a low-profile and functional approach more favourable, or is reflecting surrounding architecture and environmental colours more important?
- Ensure a coherent and coordinated approach is maintained across the two projects.
- Inform the tender process, providing a clear indication of the requirements and design expectations to those who apply to build the substations on behalf of the projects.
- Ensure that 'good design' is maintained throughout the lifespan of each project.



Timeline for North Falls and Five Estuaries offshore wind farms

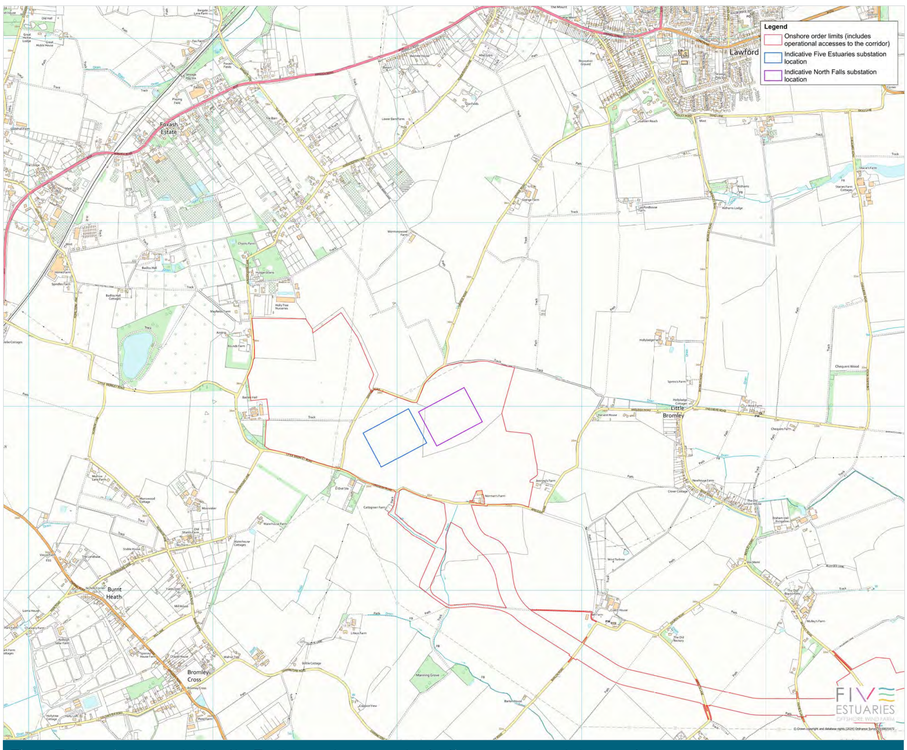
The Design Guide is split into five parts:

- **Part 1**: Context, Requirements and Design Standards
- **Part 2**: Layout, Design and Materials Guidance
- **Part 3**: Environmental Colour Assessment
- **Part 4**: Landscape and Ecology Guidance
- **Part 5**: Consultation — summary of feedback received and changes made

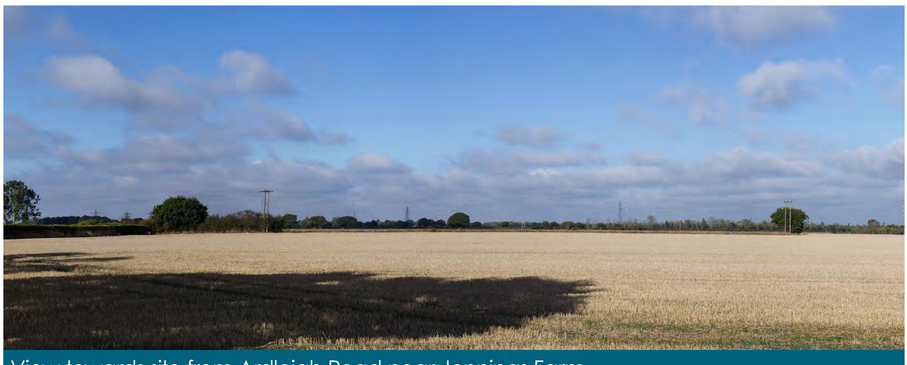
The substation sites

North Falls and Five Estuaries offshore wind farms would be connected via underground cables from landfall to co-located substations to the west of Little Bromley, near Ardleigh.

The two substations will convert power generated from the offshore wind farms to be suitable to feed into the national electricity transmission system via National Grid's proposed East Anglia Connection Node (EACN) substation, which would be located on land to the west of Grange Road, Ardleigh.



Five Estuaries and North Falls onshore substation and cable route



View towards site from Ardleigh Road near Jennings Farm

The substation compounds

The co-located substations are intended to be developed as air insulated switchgear (AIS) substations. They will include several buildings, electrical equipment, access routes and other hard surfaces, enclosed by a secure, fenced boundary with lighting and CCTV.

These are typically around seven metres high and have a footprint of 280 metres by 210 metres. An AIS does not place electrical equipment in buildings but instead relies on the surrounding air to provide the insulation between pieces of equipment. This means that there will be fewer buildings at a lower height, although electrical equipment and lightning masts will be exposed.

Typical AIS onshore substation (RWE Triton Knoll Offshore Wind Farm)

An AIS substation compound will typically comprise buildings used for storage and further electrical equipment (some examples shown below). At this point it is unknown exactly what and how many buildings the substation sites might include and the exact positioning of them.

Typical AIS control building

Typical STATCOM building

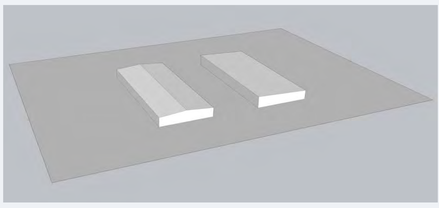
Your views

What are your views on the suggested approach for the design and materials for the buildings and the compound?

The Design Guide will explore options around roof forms, cladding and sustainability, depending on whether there is a preference to keep the buildings as functional only or blend into the existing surroundings.

Built form

- Optionality for roof to be dual or mono pitch.
- Wherever possible, the roof pitch should be minimised to constrain the building height.



Materials

- The STATCOM building requires a steel frame and cladding for fire safety considerations, as it provides a stable environment for electrical equipment. However, there are options regarding the use of cladding systems, for example, horizontal cladding that could replicate traditional weatherboarding and render systems will be considered.
- The use of an alternative material (e.g. brick) for lower levels will also be considered.

Sustainability

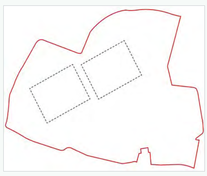
- Embodied carbon and materials life cycle to be considered during the procurement process.

Refer to Sections 2.11 – 2.18 for further information.

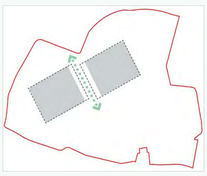
If a reduction of either substation compound is possible, where do you feel the reduction area(s) should be?

The AIS footprints could be subject to further refinement dependent on layout efficiencies as defined by the selected contractor(s). Should a reduction in the dimensions of either of the AIS footprint be possible, this may provide some additional flexibility in the location of the compound within the wider identified substation sites. The diagrams below illustrate some of the potential options:

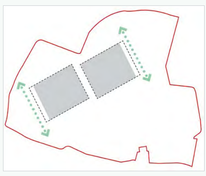
- Shortened inner length, allowing widened central planting between the two substations.
- Shortened outer length, allowing widened edge planting to south west and north east.
- Shortened width, allowing widened edge planting to south east.



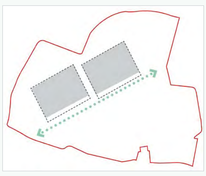
Current compound arrangement



Shortened length, allowing widened central planting



Shortened length, allowing widened central planting to south west and north east



Shortened width, allowing widened central planting to south east

Refer to Section 2.8 for further information.

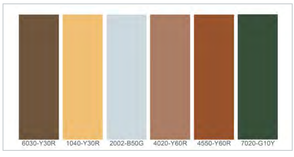
Your views

Do you have a preference on the colours being considered for the buildings that would be located within the substation compounds?

An Environmental Colour Assessment (ECA) has been carried out to determine the environmental baseline colours. This is a nationally recognised approach that provides an objective selection.

It informed the development of colour palettes that could be applied to structures and associated hard and soft components within the substation sites. Being able to identify the range of tones present in the baseline landscape was important to understand how to 'pitch' the tone of any new colours/hues being introduced.

The following palettes are a summary of the most common and representative colours found within the local landscape. These could be used to develop a range of colour concepts for the substation buildings.



Architecture Bold

A statement colour palette taken from the Architecture Core palette. These colours can be combined to create façades which allow the building to stand out and be seen within the landscape, while maintaining harmony due to these colours being present within the existing palette of the surrounding environment. Most tones within the architecture palette stand out against the surrounding landscape, but a warm grey/brown has been included to be used as a base.

Landscape Subtle

A palette of more subtle colours from the Landscape Core palette. These colours are found most often within the landscape, so are most likely to assist in the camouflage of the building within the landscape. These colours are also some of the darkest from the Landscape Core palette. The use of darker colours is another method which can help a building blend in with its surroundings.

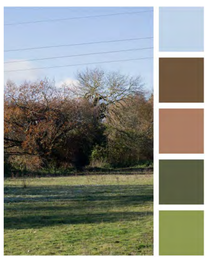
Landscape Bold

A statement colour palette taken from the Landscape Core palette. Similarly to the Architecture Bold palette, the Landscape Bold palette includes a range of colours which stand out against the surrounding landscape. Each is directly taken from a colour present within the surrounding landscape, so the colours, while bold, are harmonious and fitting within the local environment.

Recessive tones

This palette draws from both the Landscape and Architecture Core palettes. Colours which are darker than the majority of the surrounding landscape, and even contrasting in colour (opposite on the colour wheel), appear set back within the landscape. This can make them appear as shadows when screened with mitigation planting.

These colour palettes are inspired by the local architecture and the surrounding colours of nature throughout the seasons.



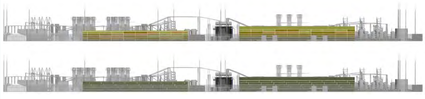
Refer to Sections 3.9 – 3.17 for further information.

Your views

Do you have a preference on the colour application methods being considered for buildings that would be located within the substation compounds?

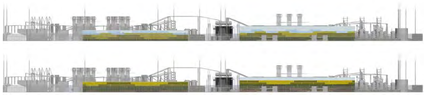
Several methods have been explored for how colour could be applied to substation buildings to integrate them into the environment.

Visual integration



Aims to camouflage the building within the landscape using colours which align with or are slightly darker than the background to blend in when viewed from a distance.

Transition



Reflects the range of colours that occur through a typical vertical section of the local rural landscape. From soils at the base to layers of vegetation toward the sky.

Architectural blocks

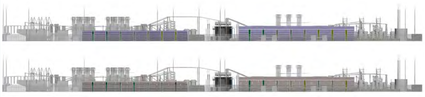
Breaking up the mass of the buildings through contrasting horizontal and vertical alignments using colours reflective of the surrounding architecture.

Accents

Adding bright or contrasting colours in small amounts that reflect the traditional architecture of the local area to add visual interest and individuality to the buildings.

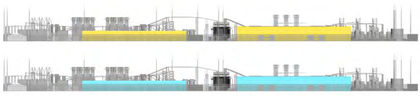
Our assumption has always been to explore colours and applications that blend with the existing environment. However, we've been encouraged to consider some colours and applications that are bold and visible within the landscape. We would also like to hear your views on these alternative approaches and whether we should explore them further.

Foils



Buildings are viewed as a backdrop to the mitigation planting. The buildings would, therefore, be coloured to 'set off' the predominant greens, yellows and browns of the vegetation.

Electricity



Colours that are bold and vibrant are used to make a direct reference to the purpose of the substation in delivering renewable energy.

Refer to Sections 3.18 – 3.24 for further information.

NORTH FALLS
Offshore Wind Farm

FIVE ESTUARIES
OFFSHORE WIND FARM

Your views

Do you have a preference on the fencing type and colour options being considered for the boundaries?

The site will be secured using an inner fence and a perimeter fence, making the fencing a readily visible and prominent feature of the site.

Substation compound secure boundary

To provide security directly around the substation compounds. The fencing will be steel palisade or weld mesh, with the potential to be coloured.

- Steel palisade provides a more solid appearance to a fence panel and is therefore better at screening the development behind. Views through the site will be filtered by the pales.

- Welded steel mesh has a more open appearance and therefore offers better visibility for surveillance and maintenance of views.

There are three approaches using the defined colour palettes for fencing colour:

- Adopt the architectural palette to allow the fence to integrate against a built backdrop.

- Adopt a landscape palette, utilising 'subtle' and 'recessive' tones, to assist with integration with a backdrop of summer or winter vegetation.

- Adopt a neutral palette, utilising 'recessive tones', to allow the fence to integrate with both built and landscape settings.

Perimeter boundary to the wider site

The primary requirement for fencing is to minimise visual effects on local receptors and align with the local environment.

The options for fence type are based on those found within the immediate context:

Timber post and three rail fence is the most common fence type found locally.

Timber post and wire fence will prevent dogs accessing sensitive habitat areas within the site.

Fence set to centre line of proposed hedge planting, where it will eventually be screened.

Refer to Sections 2.19 – 2.21 for further information.

Landscape and ecology

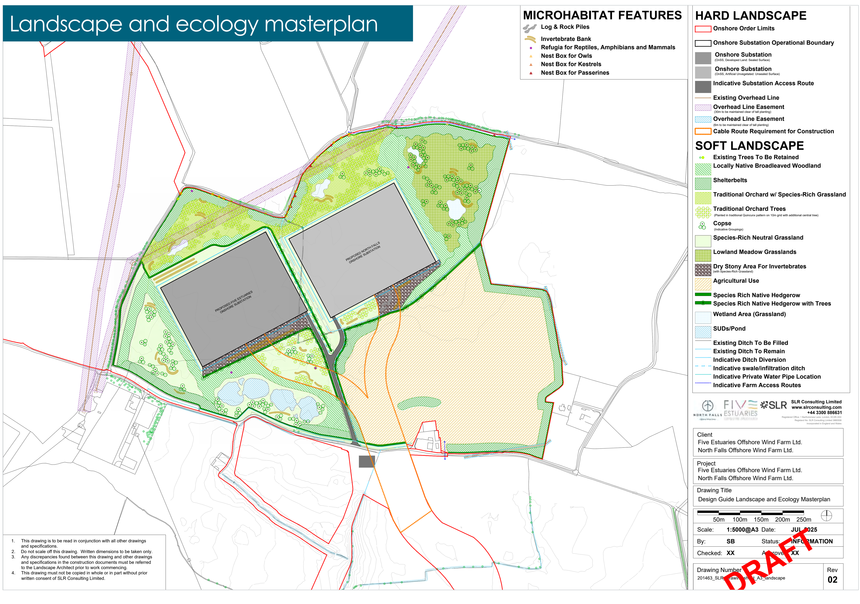
The Design Guide will set out the ecological principles that Five Estuaries and North Falls will follow. It will build on and refine the indicative proposals in the Five Estuaries Outline Landscape and Ecological Management Plan (OLEMP) and North Falls Outline Landscape and Ecological Management Strategy (OLEMS), offering further detail on the spatial arrangement and composition of proposed planting areas and habitats.

The projects have shared a similar design approach, balancing the requirements for development, managing constraints, and being mindful of the existing landscape context. This has led to proposals which fulfil the requirements for visual screening, landscape enhancements, and ecological mitigation.

The Design Guide incorporates several updates made during the examination of both projects and aims to merge North Falls and Five Estuaries' landscape plans, to provide a coherent overall masterplan to take forward to the detailed design stage.

Two key aspects have been incorporated into the plan:

- Woodland shelterbelt along Ardleigh Road to the west of Normans Farm and around the field boundary to the west of Jennings Farm. This provides a greater and earlier level of visual screening due to its closer proximity to receptors, as well as a larger area of land retained for agricultural use.
- Creation of an orchard on the northern side of the substations to restore a traditional feature and provide habitat enhancement, interspersed with higher landscape screening planting in this area.



The landscape and ecological design proposes a range of different habitats, including shelterbelts, hedgerows, woodland, traditional orchards, grassland, scrub and ponds.

The diversity and presence of habitat mosaics will ensure that there is a range of habitat and food sources for wildlife across all seasons, and that such provisions will benefit existing species and encourage the return of lost or dwindling species.

Your views

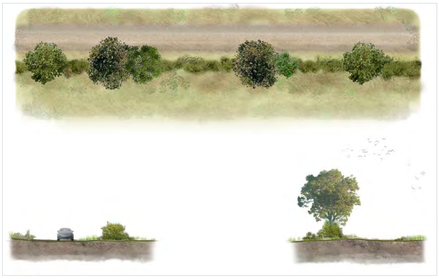
What are your views on the planting and species proposed across the substation sites?

The Design Guide provides a description and illustration of proposed habitat types and relevant suggested species for each. While the primary role of the planting is to provide screening to mitigate visual impacts, the Design Guide will also identify how habitats will be incorporated and transition, providing a mix of opportunities for wildlife to thrive.

The intention of the Design Guide is to provide an indicative plan that meets the overall site design objectives, promoting sustainability and environmental goals and helping deliver biosecurity and biodiversity.

Shelterbelts

Comprises hedgerows along one or both outer edges, enclosing a mix of canopy trees, understorey trees and ground cover between to create a layered profile and effective screening around the substation sites.

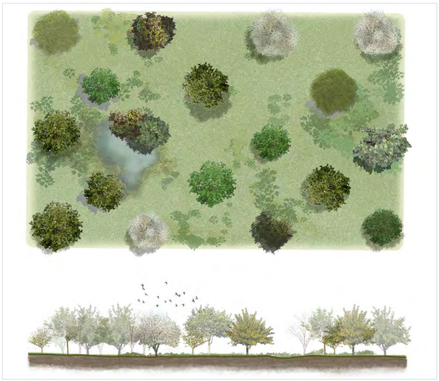


Species-rich native hedgerows with hedgerow trees

To provide screening, restore gaps in existing hedgerow, and to maintain, extend, and connect the existing network of hedgerows, acting as a physical link between areas and habitats.

Locally native broadleaf woodland

Informed by the presence of native trees in nearby Sites of Special Scientific Interest (SSSIs). A good mix of species is essential to building resilience to climate change, pests and disease.



Traditional orchards

A historic feature of the Essex landscape, a traditional orchard with unique local varieties grown by the East of England Apples and Orchards Project is being proposed. The intention is that the fruit from the trees will provide an important food source for local wildlife. It is not proposed that these would be managed commercial type orchards.

Scrub and grassland

A mixture of grassland will be used across the site for variability in response to water levels near ponds and ditches, degree of shading from buildings and other vegetation and depth of soil. Patches of scrub interspersed across the grassland will provide habitat and food sources.

Wetlands and Sustainable Drainage System ponds

Designed to regulate water levels across the site and maximise biodiversity by creating a wide draw down at the shallow ends.

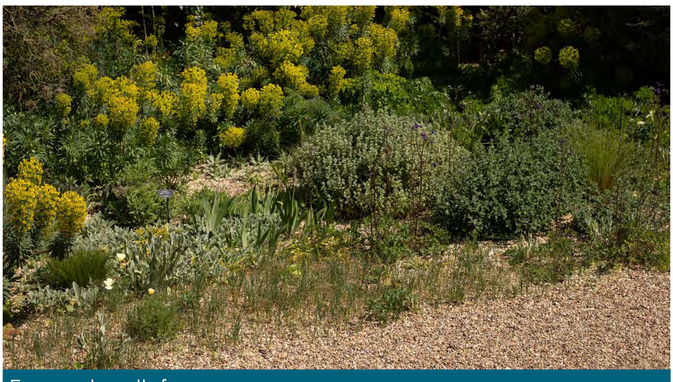
Microhabitats

Localised areas that offer specific conditions favourable for particular species, as small as a patch of moss on a rock or as large as a hedgerow. They can include different types of soil, moisture levels, light exposure, and plant communities that support various organisms such as insects, birds, amphibians, and mammals.

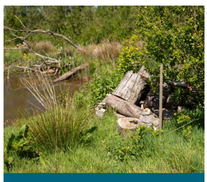
Nest boxes

Hibernaculum (shelters)

Temporary pools



Exposed earth faces



Log piles

Rock piles

Compost heaps

Invertebrate bank

Refer to Sections 4.5 – 4.16 for further information.

Your views

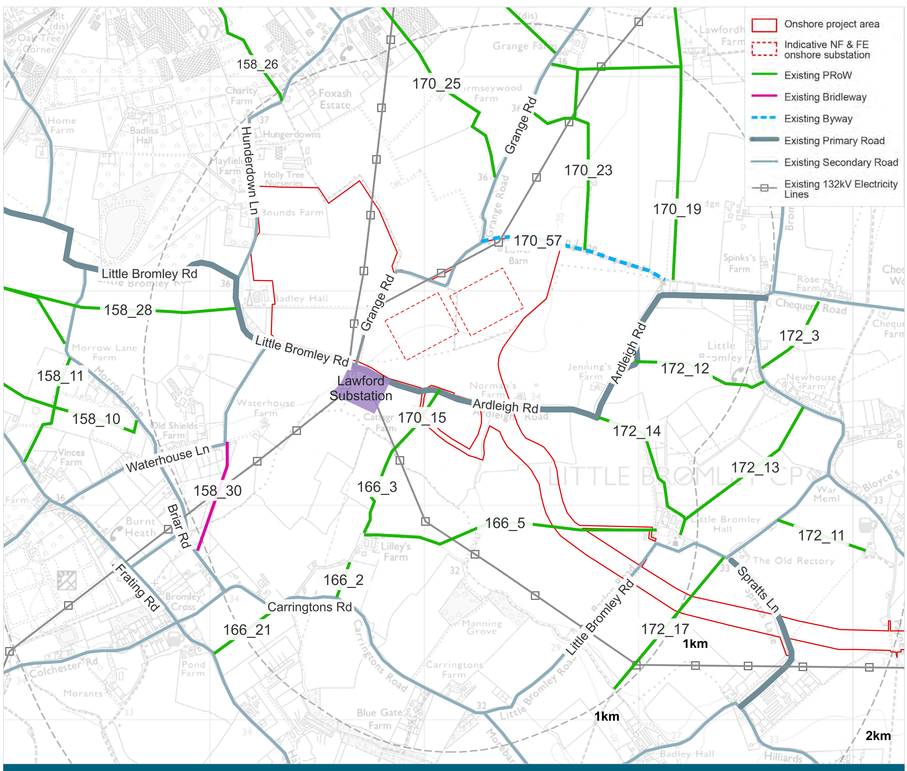
How do you currently use the area in and around the proposed substation sites?

Are there opportunities to support how local communities use the area once the substations have been built?

We are interested in hearing how people currently use the area in and around the proposed substation sites and whether there is a local desire to create more or enhance opportunities for walking, recreation or general public use.

For example, this could be improving and linking existing public rights of way, creating new walking routes, or exploring whether it is possible to make some of the proposed habitat areas accessible to the public. Alternatively, is the preference to maximise screening and ensure that the substation sites are minimised from view as far as possible, as quickly as possible?

Understanding views from surrounding communities (as the people that know the area well) will help inform the future direction of the final design of the site.



Map of existing public rights of way, bridleways, byways and roads in relation to the proposed substation sites.

Providing feedback and next steps

Your views are important to us and we welcome comments on the aspects of the Joint Substations Design Guide (Design Guide) that we are seeking to refine further.

This phase of engagement closes at **11.59pm on Monday 29 September 2025**. You can send us your comments using any of the channels below:

- Email either of the projects at either **fiveestuaries@rwe.com** or **contact@northfallsoffshore.com**, including 'Design Guide feedback' in the subject line.
- Complete a feedback form online on either of the project websites: **www.fiveestuaries.co.uk/design-guide** or **northfallsoffshore.com/design-guide**
- Forms or written feedback can also be left with us at this event.

Please note that you only need to submit your feedback to one project for it to be considered for both.

Next steps

This is our first phase of engagement on the Design Guide. After this engagement phase finishes, we'll spend time carefully considering the comments received in the further development of the guide.

Over October and November, we expect to hold our second phase of engagement in which we'll present our updated Design Guide for review and feedback. We'll also present your feedback and how this has been considered in the development of the guide. We then expect to finalise the document in December.

Get in touch

If you have any questions on the Design Guide or this engagement process, you can get in contact with either of the projects for more information via the details below.

FIVE ESTUARIES OFFSHORE WIND FARM

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NORTH FALLS Offshore Wind Farm

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