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# HOW03 Briefing Pack Onshore Converter Station

March 2024

22/03/2024

# The Onshore Convertor Station

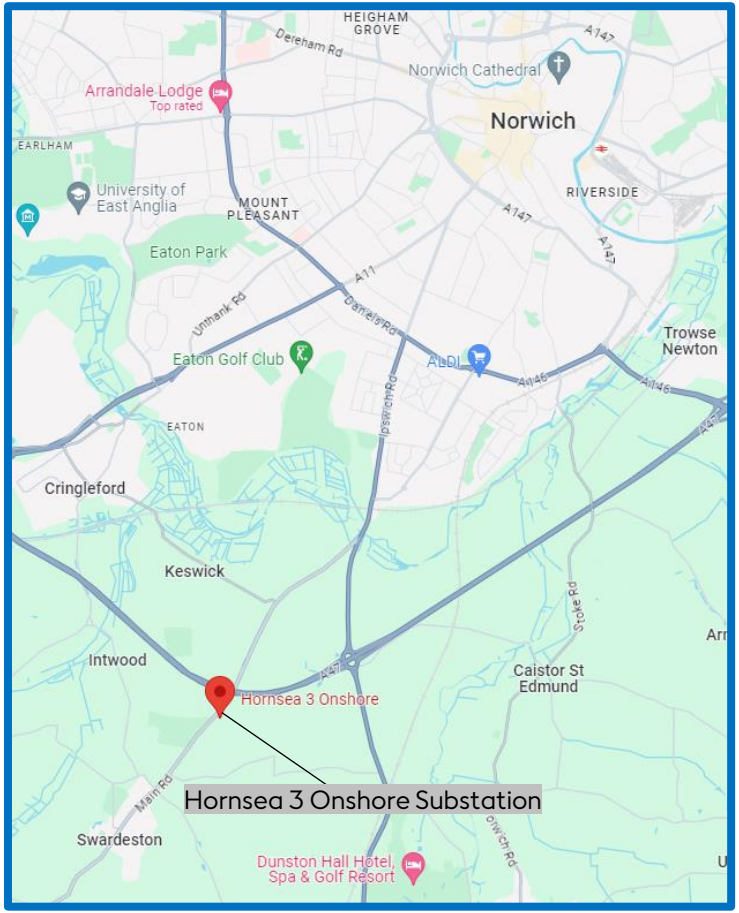
This Briefing Pack provides an overview of the main activities undertaken so far and upcoming works for the installation of the Hornsea 3 Onshore Convertor Station (OnCS).

The OnCS site is located south of the A47 on the B1113 and north of Swardeston, covering 0.13km$^2$ of land. It will house the convertor station infrastructure, temporary welfare facilities, offices, and a car park.

We shall provide regular Briefing Pack updates up until Project completion, scheduled for winter 2027/28.

Due to the nature of our activities, all dates included within the pack are subject to change.

Descriptions of information presented are provided in the glossary at the end.




Location of the Hornsea 3 Onshore Substation

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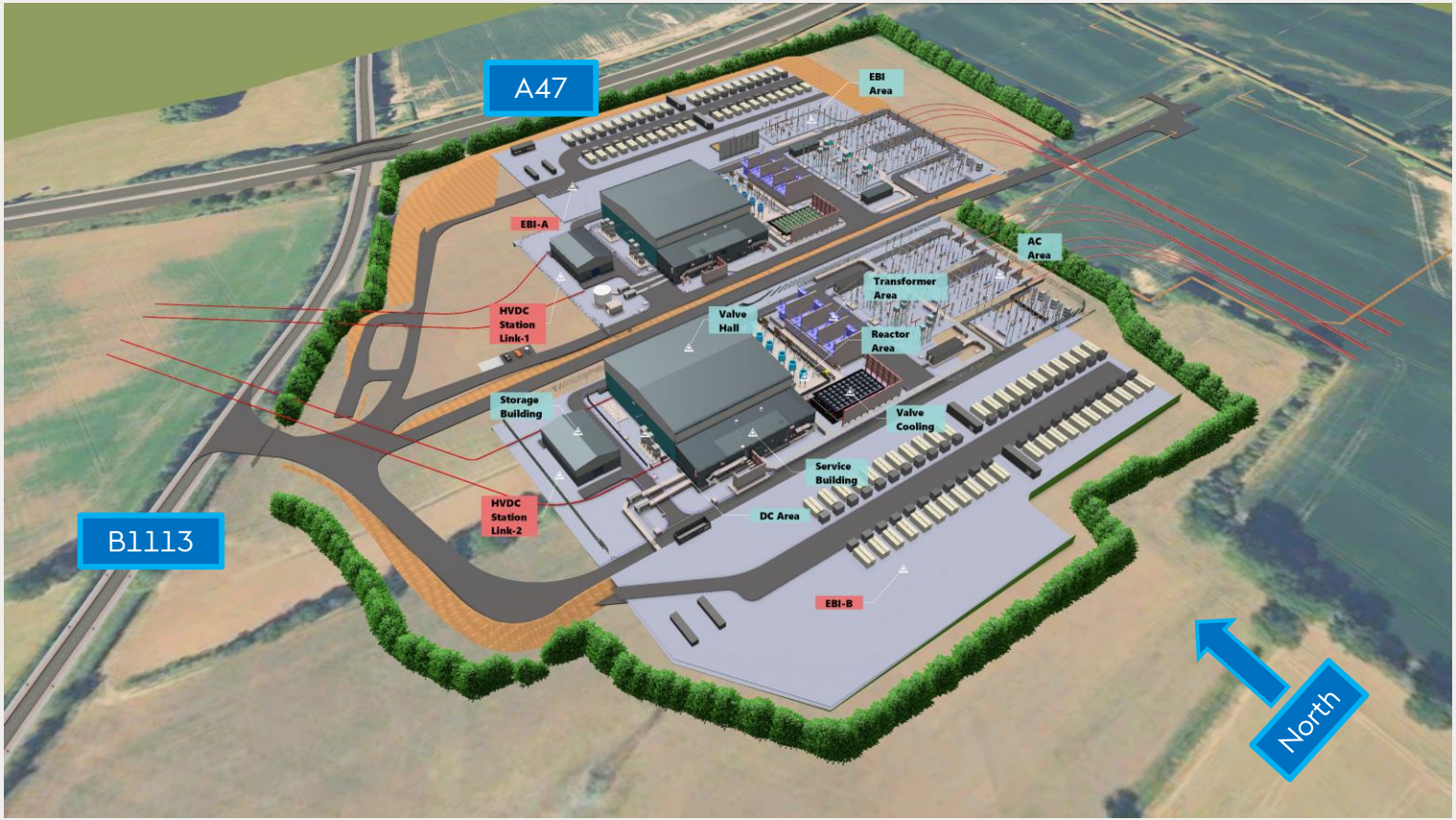
# Conceptual Design




Conceptual design of the Hornsea 3 OnCS and Energy Balancing Infrastructure



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# Site Entrance

## Description

Access to the OnCS site is via a newly built asphalt bell mouth (site entrance) adjacent to the B1113. Temporary security huts and gate guards have been installed.

This bell mouth is connected to all work areas, including the offices and welfare facilities, via a temporary asphalt haul road running through the site. The bell mouth was completed in March 2023.

## Period of use

March 2023 – Q4 2026*


OnCS site entrance as completed

*Please note that these timings are subject to change.

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# Welfare Facilities and Carpark

## Description

The OnCS welfare facilities and carpark are temporary structures that were installed in January 2024. These are fairly substantial so as to provide adequate facilities to the site staff and workers who will be involved in the installation of the Project.

These facilities are located to the east of the main construction area. Once the installation of the Project is complete, these facilities will be removed and the land returned to its original arable state, with some landscaping and planting undertaken at this stage.

## Period of installation

August 2023 – January 2024

## Period of use

August 2023 – Q4 2027*


OnCS car park

*Please note that these timings are subject to change.

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# Aggregate Working Platforms

## Description

We are installing three aggregate working platforms to provide safe, clean and stable ground on which to develop the OnCS infrastructure, including the convertor stations (Link 1 and Link 2) and battery storage facilities.

The northern battery storage platform is currently being used to store material which will be used for permanent screening, landscaping, and plantation works to mitigate the visual effects of the site.

Any aggregate removed during the construction works will be reused on-site where practicable, reducing our waste and supporting sustainable working practices.

A landscaping design has been developed to reduce visual effects from the OnCS. This is currently being reviewed by Norfolk County Council. Once approved, landscaping (including the installation of soil bunds) and plantation mitigation will be undertaken in stages, with the first phases planned for late 2024.

## Timings

May 2023 – January 2024*

*Please note that these timings are subject to change.

Northern working platform

Southern working platform

# Ground Works on Link 1 OnCS

## Description

Permanent ground works commenced on Link 1 in January 2024. This included the installation of drainage, attenuation tanks and concrete works required for the development of site buildings.

Ground excavations are currently being undertaken on parts of Link 1 to accommodate certain electrical infrastructure and associated buildings, such as the voltage transformers.

Water that flows into the site excavations during the works is pumped out into the attenuation ponds located nearby on site. The water in the ponds is then emptied to a suitable level and tankered offsite.

Link 2 civils work began in early March 2024 and will follow the same installation process as Link 1.

## Timings

November 2023 – April 2025*

*Please note that these timings are subject to change.

Underground Attenuation Tank

Service Building

# Horizontal Directional Drills

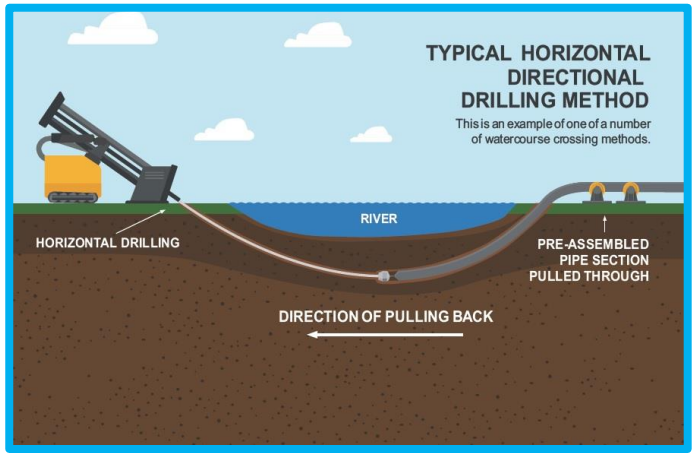
## Description

Horizontal directional drills (HDD), also known as directional boring, are a trenchless method of installing underground utilities (in this case ducting) within which high voltage cables will be installed. HDDs reduce effects on sensitive ground surface receptors or obstacles, such as habitats, railways or roads, by going underneath them.

Four HDD ducts have been installed for the development of both Link 1 and Link 2 under the B1113 into the two fields on the other side of the road. This work was completed in January 2024.

## Timings

November 2023 – January 2024




# Reinstatement

## Description

Formal reinstatement of the temporary works areas of the OnCS would normally take place towards the end of the period of works. However, early reinstatement is planned from March 2024 in areas of the site where localised drainage works have already been completed.

Topsoil will be placed across the site with a specified design mix of grass seeds, enabling substantial growth during the summer months.

These early reinstatement operations will aid surface water management and reduce the risk of flooding.

Other landscaping and plantation works are planned towards the end of the year, and then staggered throughout the rest of the project's development.

## Timings

March 2024* - Winter 2027/28*

*Please note that these timings are subject to change.



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# Glossary

### Onshore Converter Station Links 1 and 2

The electricity generated by the offshore wind turbines is Alternating Current (AC), which when transmitted, loses more power than Direct Current (DC). To avoid this loss the AC is converted into DC to be transmitted along the length of the cable. At the OnCS, the Links will then convert the 320kV of DC electricity from the onshore cable into 400kV of AC electricity required to connect to the grid. This 400kV AC electricity will be carried to the Norwich Main substation through a separate underground cable.

### Energy Balancing Infrastructure

Energy balancing infrastructure (EBI) manages the peaks and troughs in supply and demand of renewable energy by storing and supplying energy from renewable sources whenever it is needed.

The EBI facility will include a battery array, a control room, and electrical infrastructure which will connect the EBI to the OnCS.

### Earthworks / Topsoil Strip

Prior to topsoil stripping, demarcation fencing is installed to define the construction working corridor using post and rope or stockproof fencing where applicable.

Excavators will scrape back the topsoil, which will then be piled at the side of the working area, to form a topsoil bund. This prevents the topsoil becoming damaged by working equipment. Topsoil and subsoil will be stored separately on a field-by-field basis.

These topsoil bunds are then seeded with an approved seed mix to reduce the risk of surface water run-off and soil erosion.

# Glossary

## Horizontal Directional Drills

Horizontal directional drills (HDDs), also known as directional boring, are a minimal impact trenchless method of installing underground utilities, in this case ducting for high voltage cables.

There will be approximately 95 HDDs on Hornsea 3, located under roads, woodland, rivers and rail links, reducing the effects that open-trench construction methods would create and therefore minimising disruption.

## Drainage

Pre-construction drainage is installed where necessary to keep the soils draining effectively during our works.

Post-construction drainage will then be installed to help the land return to its former use.

## Bell mouths

To access land plots for our works, new gated construction traffic access points (bell mouths) need to be installed at highway entrance/exit points. The bell mouths provide access to the work area for plant, machinery, materials and anything else required to ensure the project is delivered on time.

# How to get in touch

**Project enquiries**
Community Liaison Officers
Telephone: 0800 158 2354
Email: community@hornsea3.co.uk
Community Relations Team

We aim to provide a full response to all enquiries within 10 working days.

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