# LionLink

## Converter Station - Background to Potential Design Approaches

January 2026

V0.0

# Contents

# Document Control

| Document Properties | |
|---|---|
| Organisation | Corstorphine & Wright |
| Author | JB |
| Approved by | JDL |
| Title | Converter Station - Background to Potential Design Approaches |
| Date Classification | |

# 1. Introduction

## 1.1 Introduction

1.1.1 This document has been prepared on behalf of National Grid Lion Link Limited (NGLLL), the Applicant, and is intended to provide a background to how good design will be achieved across the Proposed Onshore Scheme for LionLink, as well as further information regarding the potential landscape and architectural design approaches that could be applied to the Proposed Converter Station Site. The topics covered by this document will be addressed in more detail in the Design Approach Document (DAD) when the application for Development Consent is made. This document has been produced for the statutory consultation on the LionLink proposals and should be read alongside the following statutory consultation documents:

- Project Overview Document
- Feedback Form
- Design Principles
- Preliminary Environmental Information Report (PEIR)

### Project Overview

1.1.2 LionLink comprises a new interconnector (offshore hybrid asset) with a capacity of up to 2.0 gigawatts (GW) between the National Transmission Systems (NTSs) of Great Britain (GB) and the Netherlands, including a connection into a wind farm located in Dutch waters. An offshore hybrid asset combines interconnection with the transmission of offshore wind generation outside of GB territorial waters.

1.1.3 The Project is located partly in the territory of GB and partly in the territory of the Netherlands. Only the portion of the Project within the territory of GB is the subject of the proposed Development Consent Order (DCO) application.

1.1.4 The Project will be the second interconnector between GB and the Netherlands, the first being the existing BritNed interconnector. The Project will be the first offshore hybrid asset in GB.

1.1.5 The GB portion of the Project, termed 'the Proposed Scheme', comprises the following key components:

a. Kiln Lane Substation;
b. Underground High Voltage Alternating Current (HVAC) Cables between Kiln Lane Substation and the Converter Station;
c. Converter Station;
d. Underground High Voltage Direct Current (HVDC) Cables between the Proposed Converter Station east of Saxmundham, and the Landfall Site at Walberswick;
e. Landfall Site at Walberswick;
f. Offshore High Voltage Direct Current (HVDC) Cables from the proposed Landfall Site at Walberswick at the UK coast, to the edge of the UK Exclusive

Economic Zone (EEZ);

g. Associated enabling works, construction activities and temporary land take to deliver the Proposed Scheme; and

h. Required landscaping, drainage and biodiversity environmental mitigation measures.

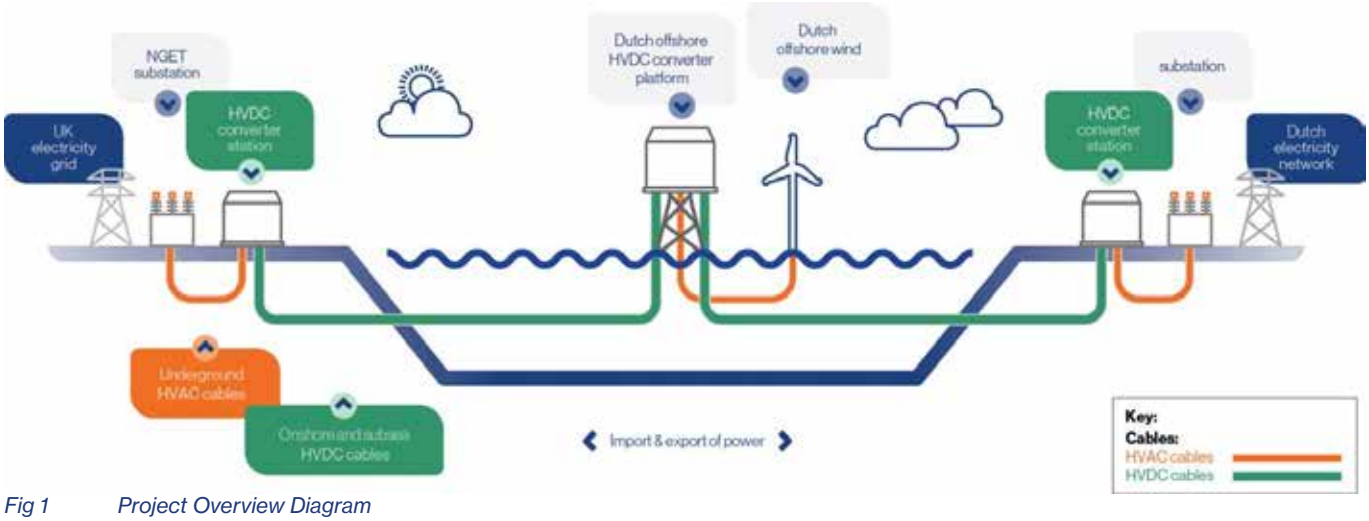



*Fig 1 Project Overview Diagram*

## 1.2 Purpose of the Document

1.2.1 This document focuses on the design approach of the Proposed Converter Station Site, located east of Saxmundham in Suffolk. It includes information relating to the emerging landscape and architectural designs and how they will relate to the existing context and with each other. The purpose is to generate informed feedback through the statutory consultation process, including a question in the **Feedback Form** dedicated to the design approach for the Proposed Converter Station.

1.2.2 The architectural concepts presented in this document are not intended as depictions of the actual Proposed Converter Station. They are architectural concept drawings only, intended to illustrate what is meant by a particular design approach. The feasibility of all concepts, and how they could be incorporated and to what extent, will be considered in an ongoing way as the Project progresses. This will consider factors including engineering design requirements, ongoing preliminary Environmental Impact Assessment (EIA), and consultation feedback.

1.2.3 A series of potential architectural approaches are presented in the **Project Overview Document** and the **Feedback Form**, which match those presented in Section 4.5 of this document. The cladding, roof designs and colour choices for the buildings that form the Converter Station can be designed in various ways, as can the landscapes that create their setting and help to mitigate their impact. This document provides a background to, and summary of, these potential design approaches, including information relating to the concept development process that has informed them.

1.2.4 These aspects of the proposals will be finalised later in the design process, subject to Development Consent being granted, and this evolution will be influenced by the feedback received at this stage.

1.2.5 Further information regarding the statutory consultation can be found on the Project website: https://www.nationalgrid.com/national-grid-ventures/lionlink/about.

## Document Structure

1.2.6 The document is divided into the following sections:

- **Achieving Good Design** – Setting out the response to Design Vision as well as the relevant policy and guidance.
- **Outline Design Approach** - Setting out the wider onshore design approach and how a coordinated multi-disciplinary design approach has been followed.
- **Converter Station Site** - This section covers the area east of Saxmundham where the Converter Station is proposed to be located. It includes the following subsections:
  - **Site Analysis** – Including a short summary of how the analysis of the site area has informed the design approach including identifying constraints and opportunities.
  - **Research** – Including local case study buildings, a sample of other completed Converter Station projects, wider precedents that are relevant to and inform the design approaches, and other landscape schemes.
  - **Landscape Design Approach** - Including different design themes, an illustrative landscape layout, and exploration of different character areas within the landscape proposals.
  - **Emerging Architectural Response** – Including; a recap of the previous Sea Link engagement material, and the Proposed Converter Station layout used as the basis of the illustrations.
  - **Architectural Design Approach Options** – Including concept development sketches and artists impressions of four example design approaches developed for the purpose of gathering feedback.
- **Next Steps** – Identifying how this work is anticipated to continue towards making an application for Development Consent.

## Approach to Co-location

1.2.7 This document, and the design approaches contained within, have been developed in coordination with Sea Link, another infrastructure project that proposes a similar Converter Station to be co-located on the same site. Sea Link is a new 2.0 GW HVDC link between Suffolk and Kent being developed by National Grid Electricity Transmission (NGET) to reinforce the electricity network. Sea Link has now submitted its application for development consent to the Planning Inspectorate, reference EN020026. Reference is made to relevant Sea Link submission documents where they inform the work that has been done for this project.

1.2.8 The approach to the siting of the Converter Stations for both LionLink and Sea Link has been coordinated in response to our non-statutory consultations and bilateral discussions. It has been established through this ongoing process that the preference

is for the two Proposed Converter Stations to be positioned together on the edge of the urban development of Saxmundham. For context, this document shows the designs for Sea Link in accordance with their submitted DCO Application documents.

1.2.9 Part of the consideration for the LionLink designs is how they will look in relation to Sea Link. There is an expectation that the two projects will be coordinated in appearance as far as is reasonably possible. However, these are two separate projects, with different time scales and constraints, and the LionLink team is not able to direct changes to the designs of the Sea Link project.

## 1.3 Summary

1.3.1 The Project needs to have a Converter Station to convert electricity from the HVDC used to transmit it across long distances to HVAC, which is what is used to supply homes and businesses. It can work in both directions, enabling electricity from the Netherlands to be used in the UK and surplus electricity to be sold to the Netherlands.

1.3.2 This document includes a summary of the site analysis and research that has been carried out to inform the approach to successful integration of the proposals into the surrounding landscape setting and how the proposed building designs are informed by the local context and infrastructure precedents. This can be found at the beginning of Section 4 of this document.

1.3.3 The Proposed Converter Station would house several buildings up to 26 metres high and would have a footprint of up to 8.1 hectares. More information regarding the Converter Station layout being used for the illustrations in this document is included in Section 4.4. The technical requirements of the Converter Station define the shape, size and layout of the buildings and equipment with limits to how changes can be made for aesthetic purposes.

1.3.4 The platform level on which the Converter Station buildings will be constructed will be set as low as can reasonably be achieved. The intention is to use the arisings to help screen the Converter Station. The area around the Converter Stations would include security fencing and lighting, permanent access roads and drainage. More information regarding the emerging landscape design approach is included in Section 4.3 of this document. It includes three key themes:

- **Theme 1:** Reprofile and plant to integrate, screen and buffer
- **Theme 2:** Connect and enhance green and blue infrastructure
- **Theme 3:** Create high quality accessible space

1.3.5 Four design approach options are described within this document. The design options include the following:

- **Agricultural** - Uses conventional and simple building forms in line with the kind of modern farm/industrial buildings found in the area. This will use a conventional colour palette (for example khaki greens) based on National Landscapes guidance. Other features such as feature gables or enhanced cladding could be included.

- **Enhanced facade** - This approach focuses on how decorative exterior cladding could be used to enhance the design by being able to incorporate references to local artists. It will draw upon the rough textures and colour shading of flint material (but using metal cladding) and will explore the possibility of grading from dark at the base to light at the top, focusing on shades of blue. It may be that this approach is applied in a targeted way to feature sections of the station in areas most viewable by the public.
- **Curved roof** - This approach focuses on how a curved roof design with deep overhangs could help fit into the rolling landscape and reduce the apparent height of the walls. Appropriate roof finishes that blend into the background and further soften the building form will be explored.
- **Fragmented form** - The intent for this approach is to break down the apparent scale of the buildings into more familiar proportions, particularly long and tall elevations. It takes inspiration from Snape Maltings as a local example of a large complex made up of various connected buildings. Techical requirements, such as the minimum clear internal height and the need to minimise features such as valley gutters and internal rainwater pipes will govern how this approach is developed such that the risk to the internal equipment is kept to an absolute minimum.

1.3.6 The design approach options take into consideration the consultation and design development included in the Sea Link DCO Application. Multiple options have been included to help generate feedback. It may be that parts of several of the options, and/or other ideas based on feedback, could be incorporated into the preferred design approach developed in the next stage of design.

# 2. Achieving good design

## 2.1 Design Vision

2.1.1 Government policy recognises that virtually all energy projects have lasting impacts, but that well-designed and integrated infrastructure which responds to and enhances its surroundings can come to be celebrated for its contribution to the landscape. This has strongly influenced the design vision for the Project:

2.1.2 The following statement is included with the Design Principles document:

*LionLink will be sensitive to place and will contribute positively to nature recovery at the landscape scale and the communities it touches. It will create opportunities to deliver Environmental Net Gain and social value by maximising the benefits locally.*

2.1.3 Good design combines creativity and functionality and considers the social, cultural, economic and environmental impacts of a proposal as integral parts of the solution. The Applicant's holistic, environment-led design approach will shape the Project to fit with the landscape and contribute to future environment and community aspirations. This is informed by the emerging strategy to deliver Biodiversity Net Gain (BNG) and wider environmental net gain, underpinned by an early understanding of the character, the strategic environmental constraints and opportunities and stakeholder priorities for the area. This will help to avoid sensitive features and to focus mitigation and enhancement measures where they will create the greatest value.

## 2.2 Response to policy and guidance

2.2.1 The design approach that is being applied to the Project is underpinned by the criteria for good design set out in the Over arching National Policy Statement for Energy (EN-1). This policy recognises that high quality and inclusive design go far beyond aesthetic considerations and good design is a means by which many policy objectives can be met.

2.2.2 The criteria for good design are supported by the Planning Inspectorate's advice on good design and on preparing applications for linear projects for Nationally Significant Infrastructure Projects, which has influenced the design approach laid out in this document.

2.2.3 The design team has worked collaboratively to define the vision and principles which underpin the design, informed by policy, early stakeholder engagement and best practice guidance. The design approach has been further complemented by detailed contextual and precedent studies and regional and local strategies, including the emerging Suffolk Local Nature Recovery Strategy (LNRS) and Saxmundham Town Council's "Empowering Nature" vision. This analysis has influenced the appropriate siting, architectural form and detailing of proposed buildings, associated plant and structures and landscape as an integrated design from the outset.

# 3. Outline design approach

## 3.1 Wider Onshore Approach

3.1.1 Strong design advocacy and leadership is driving collaboration within the Project team and with stakeholders to challenge and elevate solutions. The design of the Project is being developed by multi-disciplinary teams working at three scales, as illustrated in the framework plan shown in Figure 2. This recognises that there needs to be a different approach and focus on the permanent above ground infrastructure and the sections of underground cable.


*Fig 2 Landscape Framework Plan*

1. **Reinstatement strategy** – vegetation removed within the Order Limits to facilitate construction will be replaced to reinstate and where practicable strengthen the landscape pattern and green infrastructure in the surrounding area. This will be addressed through the measures set out in the Outline Landscape and Ecology Management Plan, which will be submitted with the application for development consent.
2. **Suffolk & Essex Coast & Heaths National Landscape and its setting** – There are legal duties on the Applicant to seek to further the statutory purpose of the National Landscape. The Applicant is reviewing land within and around the draft Order Limits, which coincides with broader strategic opportunities to conserve and enhance the natural beauty of the area and mitigate the effects of the Project. Examples including opportunities to deliver BNG and to reinforce the character and connectivity of the landscape. The Applicant is continuing to develop this strategy and is discussing these opportunities with relevant authorities. Further information will be submitted with the application for development consent.
3. **Converter Station and Kiln Lane Substation** – Design of the proposed buildings, structures, access and operational areas and the surrounding landscape setting to achieve successful integration and deliver multiple beneficial outcomes beyond the site boundary. Particular attention has been given to place-making in the design of the Proposed Converter Station Site to respond positively to the character of the place and to deliver long-term public benefits locally. The design of the proposed Kiln Lane Substation is mature and will align with the East Anglia ONE North Offshore Wind Farm Order 2022.

3.1.2 To support this, the Applicant has developed a series of design principles to deliver the design vision, which are set out in the **Draft Design Principles** document provided with this consultation.

# 4. Proposed Converter Station Site

## 4.1 Site analysis

### Landscape character and visual baseline

4.1.1 The Landscape and Visual Impact Assessment (LVIA) within the Preliminary Environmental Information Report (PEIR) sets out in detail the landscape character and visual baseline of the Converter Station Site and the wider landscape. This is the basis for the site analysis and informs the subsequent design development.

4.1.2 The site retains a broadly rural character, sharing the rolling landform and scattered woodland of the wider landscape, but its proximity to Saxmundham and agricultural intensification reduces the sense of tranquillity and remoteness. Its association with Hurts Hall, recreational routes and wooded setting contribute to its value to the local community. Site visits along local roads, including the B1119, and public rights of way reveal a mix of enclosed views near villages and more open views between them, with pylons and other infrastructure often visible on the horizon against the sky. The settlement within Saxmundham is mainly low-rise and is separated from the site by dense belts of woodland, with the land falling away to the west. As such, there is no perception of the Proposed Converter Station Site from within the town and views are limited to the eastern edge through trees.

*Fig 3 Viewpoint 19*

*Fig 4 Viewpoint 21*

4.1.3 This analysis has identified the following features and characteristics of the site that are sensitive and should be conserved and enhanced in the emerging masterplan:

- Elevated landform in the north-western part of the Converter Station Site.
- Hurts Hall and its associated historic parkland.
- Mature woodland, which visually separates the Converter Station Site from the neighbouring Hurts Hall Park and Saxmundham to the west.
- The lower-lying eastern part of the Converter Station Site, which is more open and associated with a tributary of the River Fromus.
- The domestic scale of Wood Hall farmhouse, albeit in the setting of existing large scale agricultural barns.

4.1.4 This analysis has informed the design approach through:

- developing an understanding of the landscape character of the area so that the design can respond positively with respect to the pattern, habitat types and connections;
- identifying key physical features of the site which should be retained or reflected in the design; and
- identifying key views, including at gateways to Saxmundham and to and from existing landmarks, which contribute to sense of place and legibility.

4.1.5 Feedback is welcomed on the context of the area and how the designs should respond to the character of the landscape.

## Landscape pattern analysis:

4.1.6 Historic maps highlight changes in the character and scale of the landscape over many years because of agricultural intensification, resulting in the loss of woodland and hedgerows. The landscape pattern analysis has identified opportunities to enhance and create the following:

- **Woodland habitat** - would provide multiple benefits, including landscape integration, habitat creation, public amenity and heritage conservation. There is a precedent of substantial woodland on the site in the form of Great Wood, which existed in the northern part of the site until the mid-20th century. A scale comparison of existing woodland blocks in the local area and from historic maps, demonstrates approximate dimensions with a minimum width of 50m. A variation of structure e.g. management for butterflies and moths, with woodland edge and wide rides incorporating permissive paths. The woodland should connect with existing woodlands e.g. Bloomfields Covert and Coltsclose Pickle, including through new linear woodland belts with a minimum width of 30m.
- **Parkland landscape** - Historically there were large areas of parkland in the wider area. Today small areas of remnant parkland landscapes remain, including at Hurts Hall to the south of Saxmundham. There is an opportunity to restore and extend areas of parkland, enhance the screening between Hurts Hall and the Converter Station Site through woodland planting and echo some of the historic features and characteristics in the local context.
- **Historic hedgerows and field patterns** - the Proposed Converter Station Site has large open arable fields with few features. However, historic maps from 1888-1915 demonstrate a smaller scale and much more enclosed field pattern, particularly in the north-western part. Reinstating field boundaries and patterns would create a range of scales across the site, which reference the historic context. This would also substantially enhance green infrastructure, connecting fragmented habitats and increasing the range of ecosystem services provided, supporting a principle set out in the Suffolk Local Nature Recovery Strategy.

## Site views

4.1.7 The site visits undertaken by the design team have followed the various public rights of way (PRoW) and roadways through the area such as the B1119. This has shown that the views can vary, with areas near villages more enclosed and the large areas between much more open. Only trees and buildings interrupt the view to the horizon as the nearest hills are too far away to be seen. A variety of types of infrastructure can be seen on the horizon, especially pylons.


*Fig 5 1888-1915 map of Hurts Hall*

*Fig 6 Viewpoint 15.*


*Fig 7 1888-1915 map of Great Wood*

*Fig 8 Viewpoint 16*

*Fig 9 Viewpoint 15*

### Local Landmarks

*Fig 10 St John's Church*

*Fig 11 Sizewell B*

*Fig 12 Leiston Abbey*

*Fig 13 Hurts Hall*

4.1.8 Saxmundham, located to the northwest of the Project, comprises predominantly low-rise buildings with the majority of the settlement lying at a substantially lower elevation than the Proposed Converter Station. A small number of dwellings to the east of the settlement currently benefit from views of the countryside and will be sensitive to any potential noise generated. The openness of the landscape and downward slope away from B1119 allows for The Project to be integrated with the surrounding areas. In addition, a mature band of established woodland can provide some screening between the site and the town beyond.

4.1.9 This analysis can inform the decisions and design approach through:

- identifying some of the potential key views to and from landmarks and listed buildings; and
- developing an understanding of the cultural and landscape character of the area.

4.1.10 Feedback is welcomed on the context of the area and how the designs should respond to them. This information and feedback could help ensure local knowledge is incorporated and informs the Project.

## Opportunities and constraints:

4.1.11 The Proposed Converter Station Site is located in a prominent position beyond the existing urban edge of Saxmundham and there are risks that it could be perceived as an extension of the town into open countryside. However, the site is large and open and contains few features of value, except for the mature woodland which is largely confined to its western and southern boundaries.

4.1.12 As a result, there is potential through sensitive positioning, architectural and landscape design to maximise opportunities for enhancement, in accordance with the criteria for good design set out in national policy.

4.1.13 Figure 14 below highlights key opportunities and constraints of the Proposed Converter Station Site:

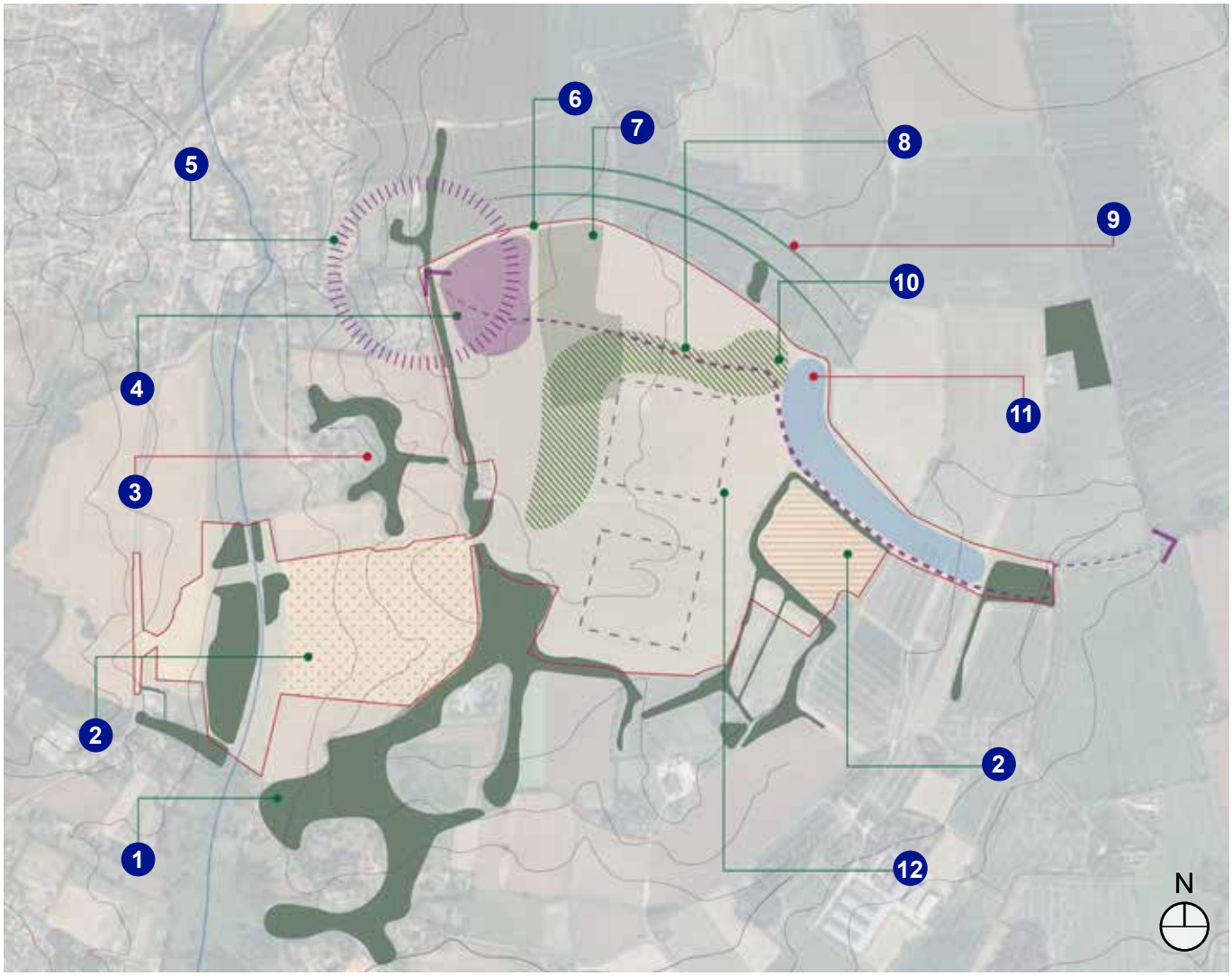



*Fig 14 Opportunities and Constraints Plan*

4.1.14 The list below highlights key opportunities of the Proposed Converter Station Site numbered on figure 14:

1. Existing woodland could help integrate and screen proposed buildings
2. Potential for mitigation for ground nesting birds through species rich grassland creation or altered farming practices

- 4 New permissive routes and realigned public rights of way could create a publicly accessible open area for amenity and recreation at the gateway to Saxmundham
- 5 Elevated and open landform in the western part of the site presents an opportunity to enhance the gateway of Saxmundham, coinciding with a local high point in the landscape.
- 6 Reinstating lost field boundary hedgerows, including along the B1119, could improve connectivity and provide some visual screening.
- 7 Great Wood, which was removed in the second half of the 20th Century could be partially reinstated, providing new habitat and a local amenity resource.
- 8 A new active travel route could connect Saxmundham with the existing public right of way network leading beyond the site to the Suffolk Coast to the east
- 10 Earthworks reprofiling with woodland planting around the western and northern area of the Converter Station could provide visual screening
- 12 Cutting the Converter Station into the landform could help reduce its apparent height relative to the surrounding landscape.

4.1.15 The list below highlights key constraints of the Proposed Converter Station Site numbered on figure 14:

- 3 The parkland landscape of Hurts Hall to the west would be susceptible to changes in pattern and setting.
- 9 The proximity of Saxmundham to the west and the gateway and approach to the town via the B1119 from the Suffolk coast to the east.
- 11 The lower lying eastern part of the site occupying the valley slopes associated a tributary of the River Fromus.

## Summary of texture, pattern and colour analysis

4.1.16 The design team has collected images that capture the kinds of textures, patterns and colours that have been observed in the area for the purpose of informing cladding colour choices that blend in with the context. The images below are a small sample of them. The circles represent colours that have been extracted from the images to inform a potential colour palette.

### Landscape colours and textures

4.1.17 The colours of the landscape change with the seasons and cycles of agriculture, becoming more vibrant in spring and gradually more muted through autumn. The patterns in the fields vary by the types of crops, tramlines and ploughing. At a macro-scale, the landscape is highly engineered but close up is softened by more natural processes, especially in the margins.

*Fig 15 Arable crops*

*Fig 16 Longer term crops*

*Fig 17 Trees and hedgerows*

*Fig 18 Flint and stones*

*Fig 19 Colour swatches taken from photographs above*

## Building materials, patterns and textures

4.1.18 Traditional building materials in the area include black timber barns, a style used on several one-off houses, contrasting dark framing elements with pastel colours, particularly Suffolk Pink, a variety of shades of brick, and the use of Flint in boundary walls and local churches. More recent modern agricultural and infrastructure buildings have tended to use grey or green cladding.

*Fig 20 Black barn*

*Fig 21 Suffolk Pink*

*Fig 22 Brick farmhouse*

*Fig 23 Flint St John's Church*

*Fig 24 Colour swatches taken from photographs above*

## Feedback Welcome:

4.1.19 This analysis can be used to inform the design process as the Projects is developed through:

- informing a potential colour palette for items such as cladding, roofing and fencing;
- considering the types of textures and patterns that could relate to the place; and
- understanding that the design needs to work with the changing environment.

4.1.20 Opinions can be provided as to what references should be made to colours, textures, patterns, and materials as the design approach is developed.

# 4.2 Research

## Local reference buildings

4.2.1 The design team has studied other large-scale buildings in the local and wider area to see what strategies have been employed which could inform the design process for the Converter Station. This process has focused on more modern buildings that have transferable features such as forms, cladding types, and colours.

*Fig 25 Local Farm in East Suffolk*

### 4.2.2 Local Farm, East Suffolk

This large collection of barns and sheds is located approximately 1km south of the Proposed Converter Station Site. It is typical of the simple and functional building forms and corrugated sheet cladding materials used on modern farm buildings. These buildings are grey but other barns in the area are green. It is noted that these buildings are lower in height compared to a converter station.

*Fig 26 Sizewell C Turbine Halls*

### 4.2.3 Sizewell C, East Suffolk

The proposed rainscreen cladding features subtle geometric folds that catch sunlight, creating shifting shadows and tones. Rotated panel arrangements introduce variation, breaking up the flat façade and blending with the surroundings. The pale colours reflect the way the cladding is seen above the horizon and against the sky.

*Fig 27 Snape Maltings Concert Hall*

### 4.2.4 Snape Maltings, East Suffolk

The original 1860s–1880s buildings, with gault brick walls and slate or corrugated roofs, reflect their industrial roots. Recent additions, like Dovecote Studio, respect this aesthetic, using reclaimed materials to connect past and present.

*Fig 28 Adnams Distribution Centre*

### 4.2.5 Adnams Distribution Centre, Southwold

The building and service yard are sunk into a former gravel pit which partially conceals them. The curve of the roof and the projecting eaves create visual interest, softens the form, and reduces the apparent height of the walls. For technical reasons, a green roof is not suitable for a converter station and alternative materials that blend into the landscape will be considered.

## Other converter stations

4.2.6 The design team has studied other converter station projects in the UK and Europe where conditions, and design constraints, are most similar to the UK. The following is a small sample of these that demonstrates the type of buildings that are needed and some of the architectural design approaches that have been delivered before. These projects vary in terms of supplier technology, overall power and voltage which are all key determinants of the scale of buildings.

*Fig 29 Viking Link, Bicker Fen, Lincolnshire*

4.2.7 Viking Link, Bicker Fen, Lincolnshire

The green colours reference nearby large agricultural buildings. The use of colour bands can be effective in reducing visual impact, particularly when viewed from a distance in the flat Fenland landscape. The buildings shown are up to 24m high.

*Fig 30 Viking Link, Revsing, Denmark*

4.2.8 Viking Link, Revsing, Denmark

The buildings have feature cladding over a simple black box. This cladding is anodised silver and is perforated to create patterns of Viking knots by a local artist engaged following public consultation on how to relate to the culture of the area. The buildings shown are up to 22m high.

*Fig 31 Hunterston Converter Station, Scotland*

4.2.9 Western Link, Hunterston Converter Station, Scotland

The vertical banding along the extended façade helps to break up the building's mass, creating smaller, more defined sections. Given its context, the structure is primarily viewed against the sky rather than the surrounding landscape, which is reflected in the choice of a lighter grey colour palette. Due to the marine environment all of the equipment is indoors. The buildings shown are up to 45m high (nuclear power station in background).

*Fig 32 France to Spain INELFE, Baixas end*

4.2.10 France to Spain INELFE, Baixas end

A single shade of green, combined with the curvature of the roof, helps to soften the profile and blend the building into the context. The curve continues down onto the outward facing walls adding shading and interest to the elevations helping to reduce the apparent height.

## Wider design inspiration

4.2.11 The following are design ideas and examples of broader inspiration that can help guide the design of the Converter Station, particularly in relation to its form, colour, materials, and overall style.

*Fig 33 Arklow Wastewater Treatment Plant, Dublin*

4.2.12 Arklow Wastewater Treatment Plant, Dublin

This scheme has been noted for upgrading a civil project into a civic project through good design. The local community was consulted on the choice of colour. The louvre forms work well at long distances and close up with corrugated cement sheet cladding. The open expression of the corners adds interest and helps articulate the form.

*Fig 34 SUEZ Energy from Waste Facility Suffolk, UK*

4.2.13 SUEZ Energy from Waste Facility Suffolk, UK

The largest volume of the facility has feature perforated cladding added over the top of the building which adds depth to what would have been a flat volume. The pattern of the perforations adds interest; however, feedback received on similar options presented for Sea Link expressed a wariness regarding strong patterns that could be distracting and alien.

*Fig 35 Ademia office building and industrial warehouse, Portugal*

4.2.14 Ademia office building and industrial warehouse, Portugal

The design uses clean lines and functional materials to create a refined interpretation almost like the black barn architecture in Suffolk. The large volume is broken down into smaller gabled sections to reduce its visual impact, though careful attention is needed at the junctions of these gables to manage drainage effectively.

*Fig 36 New Power Station, Baku, Azerbaijan*

4.2.15 New Power Station, Baku, Azerbaijan

The design incorporates a simple form with turned down roof cladding and projecting gables for a contemporary industrial aesthetic. The roof vents have been incorporated into the building form and add expression. These material choices and clean lines reference the site's industrial heritage and gives it a modern, refined character.

## Landscape design precedents

4.2.16 After examining suitable landscape strategies across the UK in areas with similar terrain, geology, and contextual settings to Suffolk. The following examples highlight the types of landscape that are appropriate for such environments, along with design approaches that have been successfully implemented in comparable locations.

*Fig 37 Sizewell, East Suffolk*

4.2.17 Sizewell C, East Suffolk

Sizewell C demonstrates how a major infrastructure project can be sensitively embedded within a protected landscape through strategic ecological and visual design. Located in the Suffolk Coast & Heaths AONB, the project integrates extensive habitat creation – including wetlands, meadows, and woodland buffers – to support local biodiversity and maintain ecological connectivity. The landscape strategy uses topography, planting, and green infrastructure to visually screen-built elements, reducing their impact on long-range views and blending the development into its rural and coastal context. This precedent highlights the importance of early landscape-led planning to mitigate environmental effects, enhance habitat networks, and deliver long-term ecological resilience.

*Fig 38 HS2 Infrastructure Maintenance Depot, Calvert*

### 4.2.18 HS2 Infrastructure Maintenance Depot, Calvert

Earthworks design can be fundamental to successfully integrating new infrastructure into the landscape and responding to sense of place. One traditional approach is to design the earthworks collaboratively with engineers and with the existing, natural landform to help minimise landscape and carbon impacts. This can help achieve better integration and, where appropriate, showcase architectural or engineering elements.

A recent example includes the design of the HS2 Infrastructure Maintenance Depot, Calvert, for which construction started in 2024. The project aims to minimise the impression of an industrial site by reducing the scale of the depot and blending it into the landscape through the use of earthworks and tree planting. The area immediately to the north of the depot was identified as an opportunity to develop biodiverse wetlands and ecological ponds as part of the sustainable urban drainage system. The area will be accessible to the public via footpaths that link these new green spaces with the wider landscape.

*Fig 39 Trumpington Meadows Country Park, Cambridge*

*Fig 40 Trumpington Meadows Country Park, Cambridge*

*Fig 41 Trumpington Meadows Country Park, Cambridge*

4.2.19 Trumpington Meadows Country Park, Cambridge

Located on the southern edge of Cambridge, this 58-hectare country park was laid out by the developer of an adjacent development of 1200 homes on former farmland. It is now owned and managed by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire. The park has quickly become a highly valued community resource and features a rich variety of habitats, including flowering meadows, riverside areas, hedgerows, woodland, and parkland. These diverse environments enhance biodiversity, providing ideal conditions for species such as knapweed and brown hares. Visitors can enjoy a range of amenities, with routes for walking, cycling, wildlife watching, and horse riding. The park includes a lake, access to the River Cam, permissive bridleways, mown paths, and surfaced trails, offering accessible and enjoyable experiences for all.

## 4.3 Landscape design approach

4.3.1 Landscape architects have informed the site selection for the Proposed Converter Station, its layout and design. They are working collaboratively with architects and engineers to develop design solutions to successfully integrate the Proposed Scheme into the landscape as part of a co-location masterplan with the proposed Sea Link project.

4.3.2 It is recognised that a development of the scale proposed will change the local landscape character and people's views and visual amenity in proximity. As such, place making is at the heart of the design and has led to the development of the illustrative masterplan which responds to the local landscape and context. The landscape masterplan relates to the areas outside of the security fence of the Proposed Converter Station.

4.3.3 The masterplan aligns with the project design principles, which follow national policy guidelines; and The Planning Inspectorate's advice on good design. This supports the identification of opportunities for wider benefits and outcomes beyond the project itself.

4.3.4 The design team has analysed the historic and current landscape pattern, and the opportunities arising from the Proposed Scheme to create a landscape for the future. This has also been informed by wider strategies, including the emerging Suffolk Nature Recovery Strategy and Saxmundham Town Council's "Empowering Nature" vision. Three cross-cutting strategic themes have been defined, which underpin the landscape design. The following pages set out rationale for the landscape masterplan for the Converter Station Site, based on these themes.

## Theme 1: Reprofile and plant to integrate, screen and buffer

4.3.5 The land will be reprofiled and planted to maximise integration of the Converter Station into the landscape.

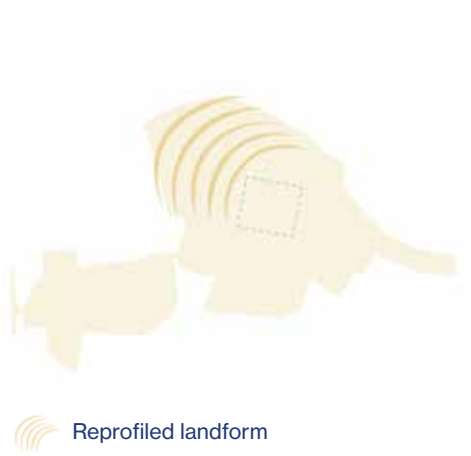



*Fig 42* *Natural and integrated land form reprofiling across the whole site to reduce the visible height of the building.*

- Position the Converter Station platform as low as possible in the landscape (approximately 21m Above Ordanance Datum)
- Reprofile the landform across the site with flowing contours to tie into the highest existing level (approximately 30m Above Datum) and integrate the Converter Station and associated infrastructure into the landscape context.
- Balance the cut and fil on the site to minimise importing or exporting material
- Integrate green retaining walls facing the proposed Converter Station to provide visual screening, noise reduction and habitat benefits.
- Create new woodland to coincide with landform reprofiling to maximise integration and visual screening from the eastern edge of Saxmundham and the B1119.

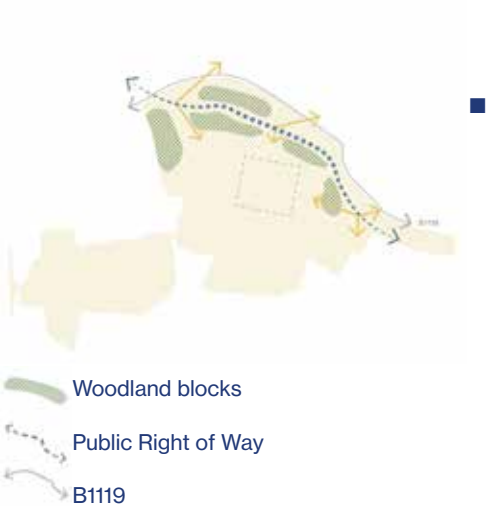



*Fig 43* *Strategic use of woodland to break up visual mass of proposed buildings, including planting between buildings.*

- Create new woodland to coincide with landform reprofiling to maximise integration and visual screening from the eastern edge of Saxmundham and the B1119.

## Theme 2: Connect and enhance green and blue infrastructure

4.3.6 Interconnected, biodiverse green corridors and habitats reconnect the existing fragmented landscape. Sustainable water management filters stormwater, green runoff rates, and enhances the ecological value of proposed water bodies on site.

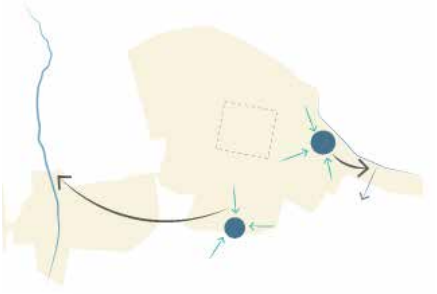
Existing woodland

Ecological corridors

*Fig 44* *Create green, ecologically rich corridors connecting fragmented hedgerows and woodland*

Matrix of ecological habitats

*Fig 45* *Create biodiverse, ecologically rich habitats, aligned to BNG targets.*



Water attenuation features

Rainwater capture

*Fig 46* *Capture and filter stormwater to maintain greenfield runoff rates. Water bodies to maximise ecological gain.*

- Strengthen, connect and enhance existing fragmented habitats to improve resilience and biodiversity.
- Restore the historic field patterns through hedgerow planting in the north-west of the site by subdividing the existing fields and creating a more human scale, which can accomodate community facilities.
- Implement advanced planting where possible to maximise the effectiveness in visual screening and habitat in the early years of operation.
- Create new woodland habitat corridors for species such as bats along the western side closest to Saxmundham, to reinforce the existing belt of Coltsclose Pickle.
- New woodland to be informed by the character of the local woodlands in the surrounding landscape with a minimum width of 50m.
- Reestablish Great Wood, reflecting the historic landscape pattern where appropriate
- Incorporate woodland edge habitat, at the fringes of open habitats and rides through woodland to maximise biodiversity and enhance amenity.
- Establish species rich grassland as habitat for ground nesting birds and public amenity outside the bird nesting season.
- Establish trees within the grassland on the western side of the Converter Station site to extend the parkland character of Hurts Hall.
- Design water and drainage features as part of a lowland meadow habitat.
- Create opportunities for people to engage with the space through a recreational route.

## Theme 3: Create high quality accessible space

4.3.7 The Converter Station site will provide a high-quality, accessible place that serves as a local destination with a strong sense of community identity. A network of public rights of way and strategic active travel routes will provide and attractive setting to encourage people to connect with nature and support healthy lifestyle choices.


*Fig 47* *Create a local destination space with a strong community identity, co-designed with the community.*

- Consider opportunities to provide community facilities for public amenity in the north-west corner of the proposed Converter Station site at the eastern gateway to Saxmundham.
- This may include community growing space including an orchard and allotments, which aligns with the aspirations in the Saxmundham Town Council vision 'Empowering Nature'.
- Locate amenity spaces and recreational routes in quieter spaces away from the Converter Station where possible.

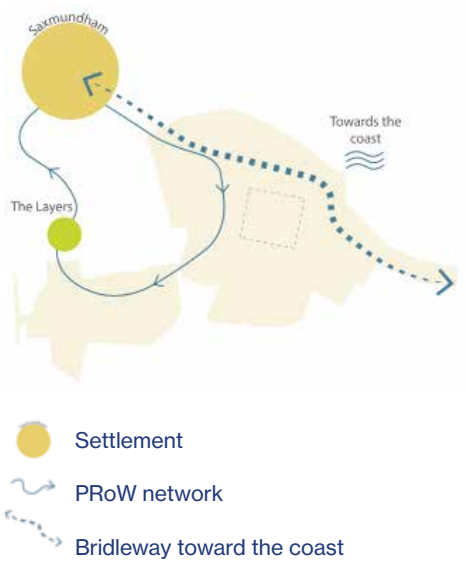



*Fig 48* *Provide strategic active travel routes, within an attractive setting.*

- Provide recreational routes from Saxmundham and Sternfield with a range of distances, passing through a variety of landscape typologies connecting with existing recreational routes and links proposed by Sea Link.
- Create a new bridleway connection from the edge of Saxmundham to the existing bridleway and quiet lanes that lead towards the East Coast.
- Improve wayfinding and public education through signage and interpretation boards, including local heritage, archaeology and storytelling.

## Illustrative co-location landscape plan

4.3.8 The emerging landscape masterplan is an illustration of how the design vision and the three strategic themes outlined above could be delivered.

4.3.9 The design incorporates the technical design parameters, requirements for mitigation, and opportunities for environmental enhancement. This results in a rich and varied landscape featuring substantial areas of woodland, species rich grassland, wetlands and community orchards to achieve multiple benefits for the environment and local communities.


*Fig 49 Illustrative co-location landscape plan*

Legend

- Proposed Converter Station Site boundary
- Recreational route (proposed LionLink and Sea Link)
- Recreational route integrated with access road
- Existing woodland
- Proposed Sea Link:
  - Woodland
  - Species rich grassland
  - Hedgerow
- Proposed LionLink:
  - Woodland
  - Woodland edge
  - Species rich grassland
  - Attenuation pond
  - Altered farming practices
  - Parkland
  - Hedgerow
  - Community orchard
  - Allotment

## Character areas

4.3.10 The masterplan weaves together a diverse mosaic of habitats and landscape typologies, from orchards and parkland to meadows, woodlands, and lowland water meadows. A network of circular recreational routes radiating from Saxmundham offers a choice of distances, inviting people to explore and experience these varied landscapes throughout the seasons. Together, they create a rich sensory journey and an opportunity for connecting with nature, as illustrated in the adjacent sketches that follow the bridleway from west to east across the northern part of the site.

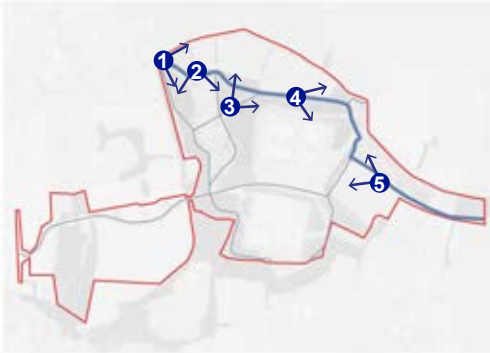



*Fig 50 Key plan to landscape views 1 - 5.*

*Fig 51 View 1: View from Orchard*

*Fig 52 View 2: View from parkland*

*Fig 53 View 4: View from meadow and woodland slope*

*Fig 54 View 3: View from woodland ride*

*Fig 55 View 5: View from lowland meadow and wetland*

## 4.4 Emerging architectural response

### Indicative engineering solution for the Proposed Converter Station

4.4.1 Figure 56 shows the indicative engineering layout solution for the Proposed Converter Station that has been developed for the Project. This layout and massing has been used for developing the illustrations of how the potential design approaches could look. At this early stage, it is not possible to define the positions and sizes of buildings and equipment as it will depend on the final design from the Original Equipment Manufacturer (OEM). For this reason, maximum parameters will be defined for the position and height of the Converter Station which, when represented in elevations and 3D views is called a Rochdale Envelope. In the illustration sketches this is indicated using a dashed blue line as per the diagram below.

4.4.2 The 'Rochdale Envelope' approach is used in planning when certain details of a proposed development, such as the exact dimensions, layout, or technology cannot be confirmed at the time of application. This method allows for flexibility by permitting developers to define a range of parameters within which the development can occur, thereby addressing uncertainty while still enabling robust environmental assessments (Planning Inspectorate, 2022).

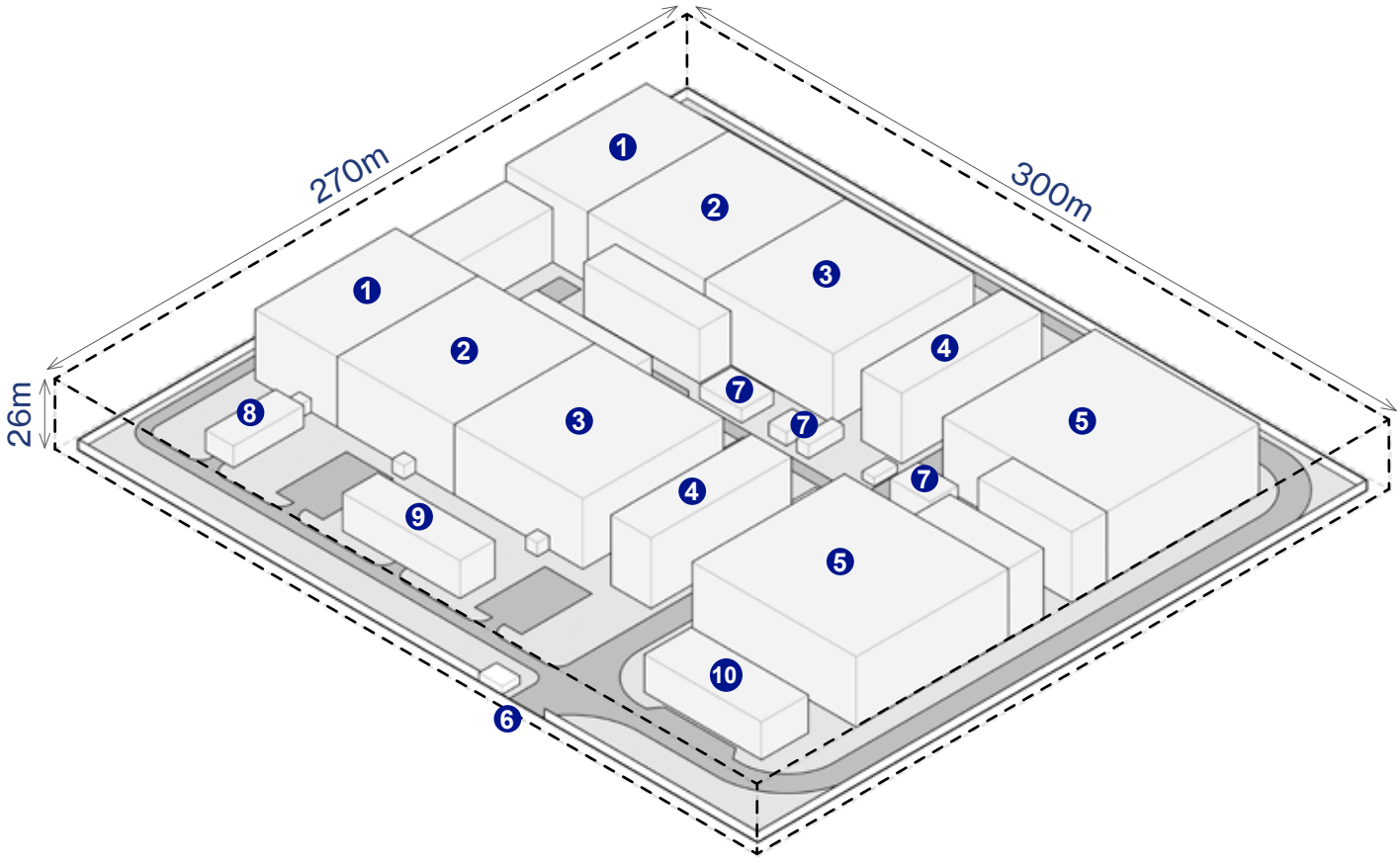



*Fig 56 Indicative Converter Station layout*

1. DC Halls
2. Valve Hall
3. Reactor Hall
4. Transformers
5. AC Areas
6. Entrance to Site
7. Electrical Equipment
8. Cable Storage
9. Control Building
10. Storage Building

4.4.3 Buildings of the heights shown are required as the structure needs some separation from the equipment to prevent the high voltage current arcing across. The tops of these buildings are typically of a height that is beyond landscape screening and, therefore, these areas would be the primary focus of the design approaches. The lower sections and secondary buildings would form a backdrop.

## Converter Station: Summary of the technical requirements

4.4.4 As described with Figure 56, the Proposed Converter Station Site comprises multiple buildings including the two main converter halls, spare parts building, service building and other ancillary buildings that help to run and maintain the facility. The largest are the two main converter halls that can be up to 26m high. The following key facilities are included within the Converter Station Site:

- DC Halls
- Transformers
- AC Equipment and Buildings
- Ancillary Buildings and Equipment
- Vehicle Circulation

4.5.5 The final disposition of these facilities will depend on the selected equipment provider and the requirement for design flexibility has been allowed for in the Limit of Deviation which defines the potential extents of the Converter station.

## Heights

4.6.6 The level of the development plateaux is determined by technical constraints such as ground conditions, drainage and flood risk with the aspiration being to keep this as low as possible and therefore, minimise the overall height of the Converter Station. Flexibility is required in defining the height of the buildings with the intention being to work within the parameters set by the Rochdale Envelope, as described in Figure 56.

## DC Halls

4.7.7 The DC equipment requires a controlled environment and, therefore, needs to be enclosed within buildings. HVDC cables enter into two DC halls which are often designed to be symmetrical and from which three-phase HVAC goes out or in (the process is reversible). These buildings comprise the largest footprint and tallest buildings within the Converter Station Site and are governed by minimum internal clear height requirements in addition to the constraints of the Rochdale Envelope.

## Transformers

4.8.8 The transformers are usually arranged in two groups of three, can be located internally or externally and positioned between the DC Halls and AC areas. Their purpose is to modify the voltage that feeds into the substation

## AC Equipment and Buildings

4.9.9 AC equipment can be located internally or externally within a limited number of buildings. The purpose is to clean up the current from the transformers before it is transmitted to the wider grid.

## Ancillary Buildings and Equipment

4.10.10 There is a requirement for a number of ancillary buildings including, Spare Parts, Control and Security Office together with fire safety equipment, water tanks and emergency generators. These buildings are smaller than the main DC Halls and there is some flexibility in where they are positioned within the Converter Stations Site.

## Building form

4.11.11 The form of the main DC Halls and, where required AC Buildings is determined by the technical requirements of the equipment to be accommodated. As the technical requirements for ancillary buildings is less onerous, there is more flexibility in the design of the external envelopes. The selected design option will need to consider the technical requirements of the internal equipment, particularly in the DC Halls and AC Buildings. These buildings need to be designed to avoid water ingress and be low-maintenance. As such, overly complicated roof forms, such as those involving multiple internal gutters and pipes will be avoided. Similarly, the roof finish will need to be durable and low-maintenance. This requirement excludes the use of green or living roofs which are higher-maintenance and present a higher risk of water ingress.

## Lessons learned from previous Sea Link engagement

4.11.1 A series of potential architectural approaches were included as part of the consultation material presented at the Sea Link Statutory Consultation events in late 2023. The responses to these six design approaches are included in the Sea Link application [EN020026], Application Document 5.1.6 Consultation Report Appendix E Statutory Consultation Part 4 of 4 [APP-312].

4.11.2 Following Statutory Consultation the Sea Link design approach options were reduced to four and these were subject to further engagement, scrutiny and development including an independent Design Review Panel in November 2024. The design evolution is covered in the Sea Link Application Document 7.11.1 Design Approach Document - Suffolk [APP-364].

4.11.3 The design approach options presented as part of this Statutory Consultation exercise for LionLink have considered the development undertaken for Sea Link on the same site, as well as the feedback it has received. By building on previous engagement, and through future consultation, the intention is to develop a single preferred design approach to be included within the application for Development Consent.

## Development and presentation of the design approach options

4.11.4 Section 4.5 includes illustrations of design approaches for the Proposed Converter Station. The four options cover the following design themes which have the potential to be applied separately or in combination;

- Agricultural;
- Enhanced Facade;
- Curved Roof; and
- Fragmented Form.

4.11.5 As part of the statutory consultation on the Project, feedback is invited on whether any aspects of the four potential approaches illustrated in Section 4.5 should be explored further in developing the designs. Views can similarly be provided on possible design approaches that have not been included. The Applicant will have regard to the responses received when considering how the design approach and design codes for the Converter Stations are developed.

4.11.6 A summary of the design process behind each option is included to help inform feedback. For each option this includes:

- a page of reference images, development sketches, and consideration of alternatives, such as other colours, which are not included in the sketches, and
- a page of sketches including an eye level view and elevations.

4.11.7 The eye level sketch view for each option is taken from the same place to make comparison easier. It is based on the baseline photography for one of the representative viewpoints used in the LVIA chapter of the PEIR. Viewpoint 16 has been selected because it is relatively close to the Proposed Converter Station and is a viewpoint where it could be possible to see both of the LionLink and Sea Link Converter Stations. It is also a position that is readily accessible to the public without the need to go onto private land.

4.11.8 Figure 58 includes a representation of the landscape proposals as they would appear after 15 years of growth and how it is anticipated the proposed woodland could screen the Converter Stations from view. To make assessment of the options easier, Figure 59 omits some of the foreground trees. Sea Link is shown in these sketches for reference but without design options applied to the buildings.


*Fig 57 Viewpoint 16 and elevations key plan*

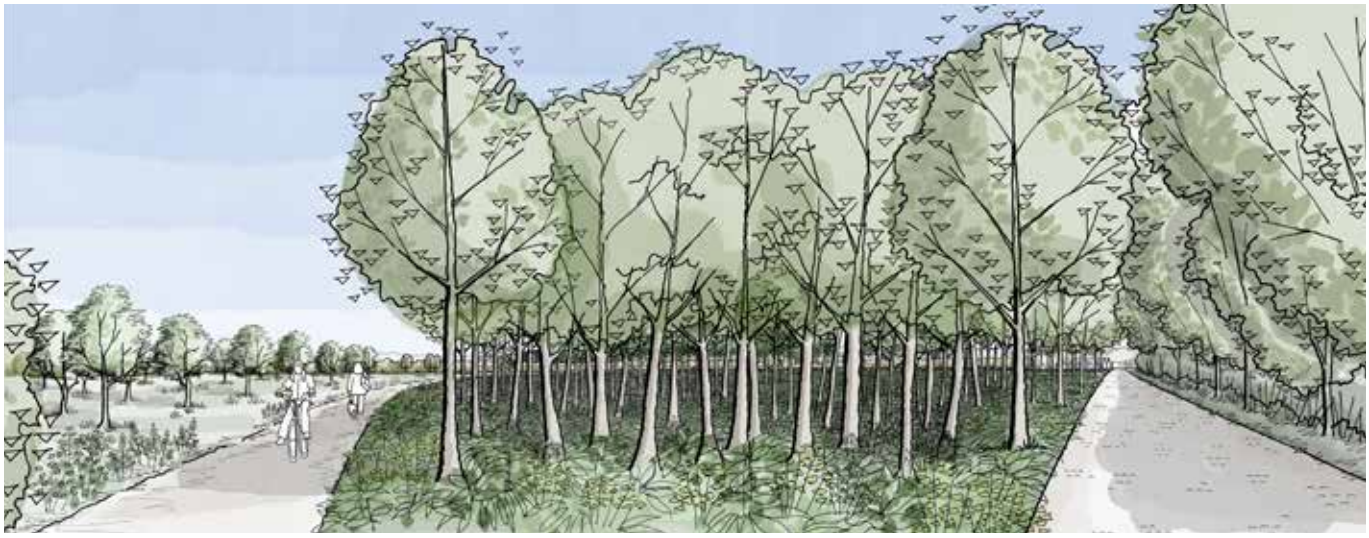


*Fig 58 Proposed view towards the Proposed Converter Station from Viewpoint 16 with foreground trees*

*Fig 59 Proposed view towards the Proposed Converter Station from Viewpoint 16 with foreground trees hidden*

# 4.12 Architectural design approach options

## Agricultural approach

4.12.1 This option uses conventional and simple building forms in line with the kind of modern farm/industrial buildings found in the area. This will use a conventional colour palette (for example khaki greens) based on National Landscapes guidance. Depending on feedback received, other features such as feature gables for enhanced cladding could be included.

4.12.2 The first exercise, as highlighted in Section 4.2 was to identify key themes from the local context and seek precedents for how this can be interpreted in contemporary design. These have been analysed through sketch studies including those below.

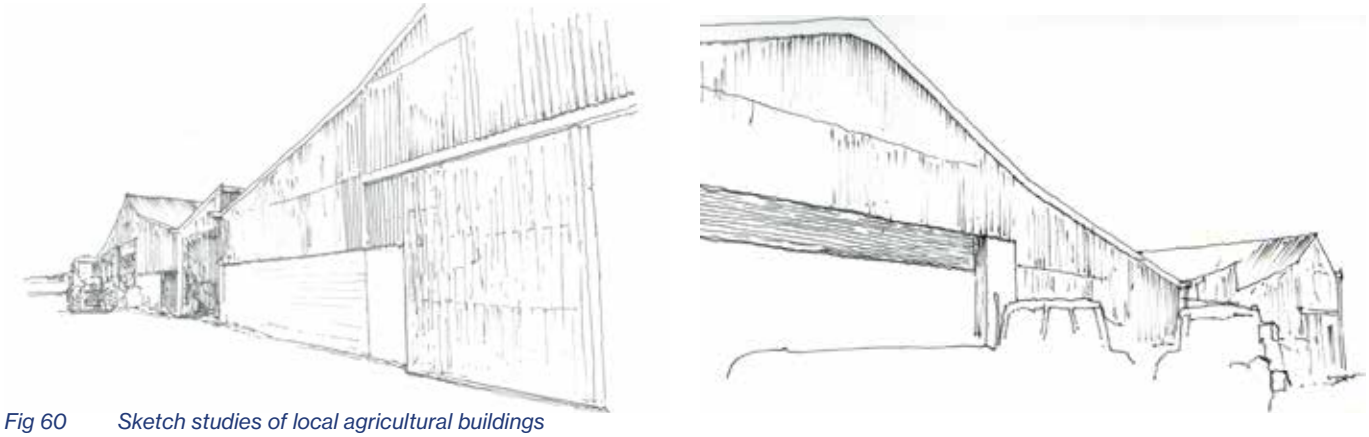


*Fig 60 Sketch studies of local agricultural buildings*

4.12.3 The architects have visited site several times and have taken photographs of cladding colour samples in different lighting conditions to represent how the colour might appear on different elevations. A sample of the colours included is shown in the figure below. Some of these colours may be better suited to detail features.

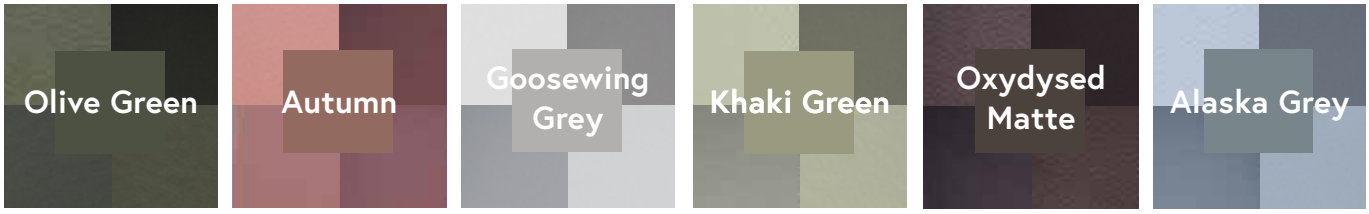



*Fig 61 Colour studies, the variations are based on the standard (central) colour in different lighting conditions*

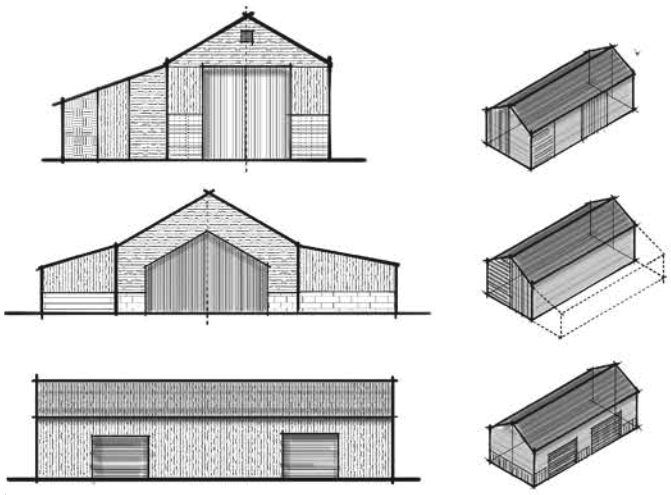


*Fig 62 Elevation studies*

4.12.4 Further development sketches look at the way the massing of these buildings is often made up of primary and lean-to elements. There are also themes such as inset panels, expression of major doorways. There are also many examples of where the base of the building may contrast with the upper section, or where key features such as roof trims and rainwater goods use contrasting colours.

4.12.5 Figures 63 to 65 show how the agricultural design approach could be applied to the Proposed Converter Station. The main buildings are shown with simple low duo-pitched roofs with gables facing east and west. The colour represents a mid-tone green intended to blend into the landscape and there is a suggestion of some features such as subdivisions of the walls.

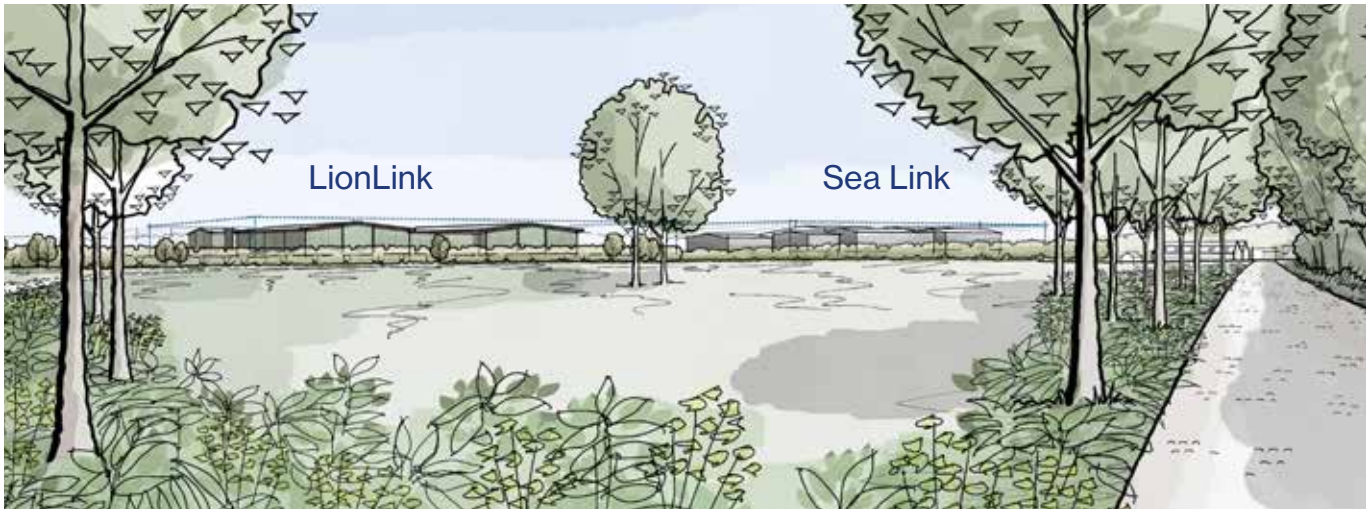



*Fig 63 Illustrative view from Viewpoint 16, Agricultural Option (foreground trees not shown)*

*Fig 64 Illustrative North Elevation, Agricultural Option*

*Fig 65 Illustrative East Elevation, Agricultural Option*

4.12.6 Some of the initial ideas for next steps, which can be developed in conjunction with the feedback received include:

- develop the building forms, seeking ways to reduce the apparent massing;
- further investigation of colour options, including how colours can be combined, and testing these in key views;
- consideration of cladding profiles and how and textures can be applied to the building to add interest to surfaces;
- explore how the detailed elements of the buildings, such as the eaves, gutters, rainwater pipes, and facade junctions can be developed as part of the overall design; and
- consider how the other design options could be incorporated, such as dividing up the massing, or integrating some enhanced cladding to key gables.

## Enhanced Facade

4.12.7 This approach focuses on how decorative exterior cladding could be used to enhance the design by being able to incorporate references to local artists. It will draw upon the rough textures and colour shading of flint material (but using metal cladding) and will explore the possibility of grading from dark at the base to light at the top, focusing on shades of blue. Depending on the feedback received, it may be that this approach is applied in a targeted way to feature sections of the buildings that are most viewable by the public.

4.12.8 The architects have identified flint as a material used in the local context that could be reinterpreted through modern rainscreen cladding to add variations in colour, texture that would break up flat surfaces and add interest to the appearance of the buildings in longer and nearer range views.

*Fig 66 St John's Church*

*Fig 67 Flint House, Bucks*

*Fig 68 Sizewell C details*

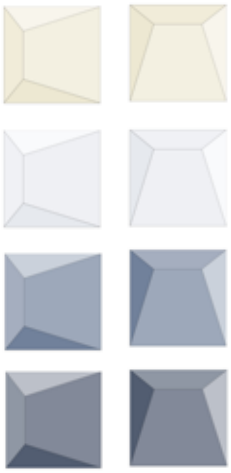


*Fig 69 Concept*

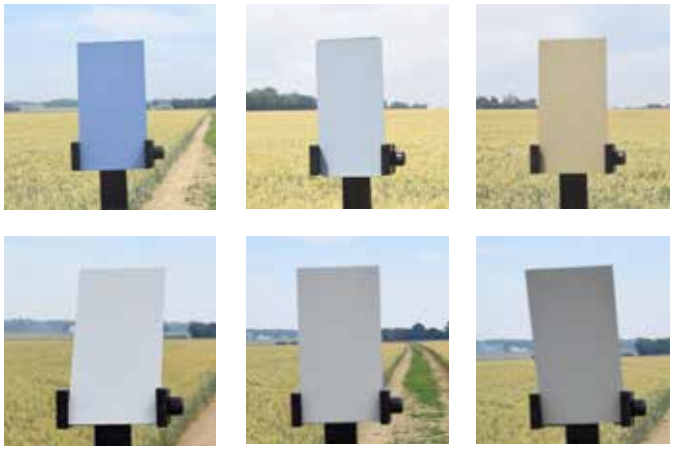


*Fig 70 Cladding samples photographed on site*

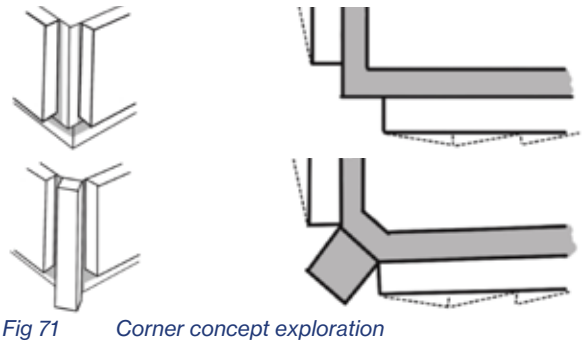


*Fig 71 Corner concept exploration*

4.12.9 As well as photographing cladding samples facing different directions the architects also tested to see how changing the angle of the cladding changed the appearance. This could be used as a means to add variation. This could create a texture reminiscent of the flint stone walling seen in Saxmundham with a combination of warm brown greys, and cool blue greys.

4.12.10 The rainscreen layer can add depth to the facades and this can be used to give further articulation to the buildings without compromising the inner technical layer. The corners could be inverted like the Arklow Wastewater Treatment Works in the precedents, or turned out like a buttress. This could help avoid the different sides of the building from merging into each other and break up the massing when seen at an angle.

4.12.11 Figures 72 to 74 show how the enhanced cladding design approach could be applied to the Proposed Converter Station. The buildings are shown with a grid of rainscreen cladding panels that gradually go from dark at the base to lighter at the top. The massing is shown with the roof hidden behind a parapet which can help to avoid sheen from sunlight.

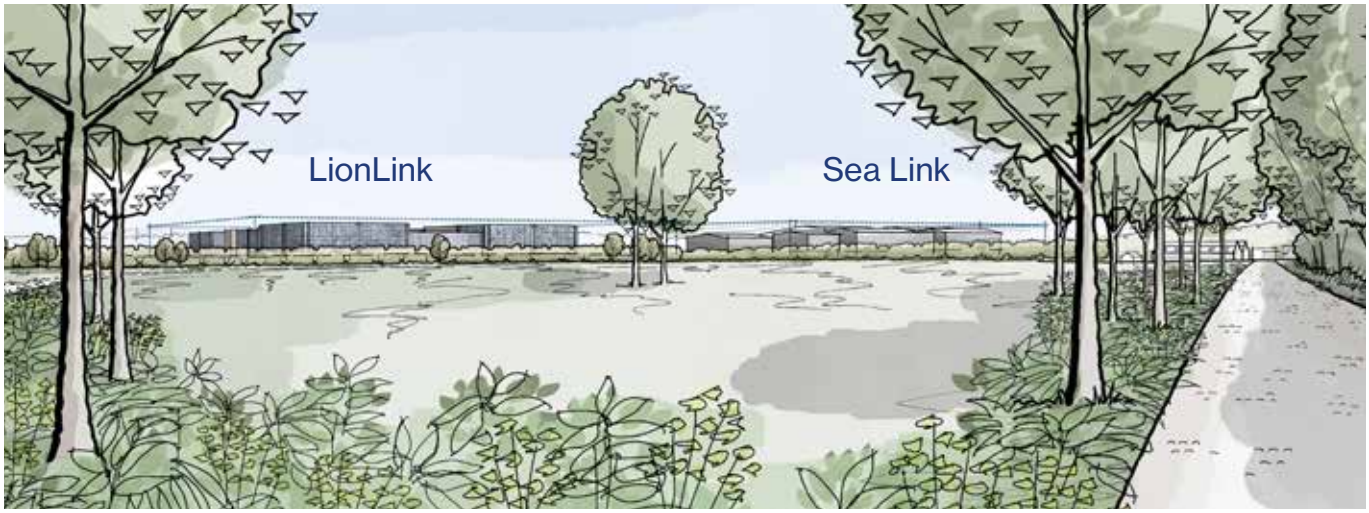



*Fig 72 Illustrative view from Viewpoint 16, Enhanced Cladding Option (foreground trees not shown)*

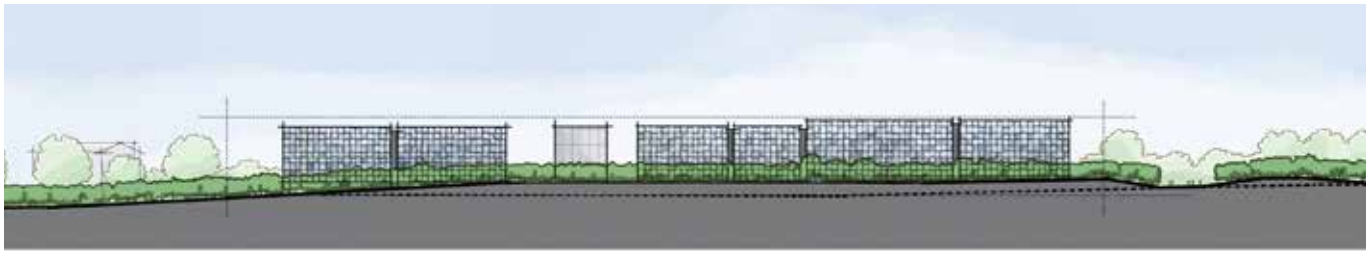


*Fig 73 Illustrative North Elevation, Enhanced Cladding Option*

*Fig 74 Illustrative East Elevation, Enhanced Cladding Option*

4.12.12 Some of the initial ideas for next steps, which can be developed in conjunction with the feedback received include:

- consider how different colours and cladding types could be combined to articulate the elevations;
- investigate material options that are inspired by local patterns, examining how varied profiles add texture and depth to the elevation and respond dynamically to changing light conditions;
- investigate the building's base, or plinth, beneath the enhanced cladding to understand its impact on the overall appearance from a distance (hidden by the trees in these views; and
- consider how this cladding texture may work alongside the agricultural building forms instead of the parapets, for example as a feature gable.

## Curved Roof

4.12.13 This approach focuses on how a rolling roof design with deep overhangs could help fit into the rolling landscape and reduce the apparent height of the walls. Appropriate roof finishes that could blend into the background and help soften the building form will be explored.

4.12.14 The first stage was to prepare initial conceptual diagrams and sketches to study the nature of the curves and undulations in the topography and tree lines visible from the site. The figure below shows these gentle curves that inform the design approach.

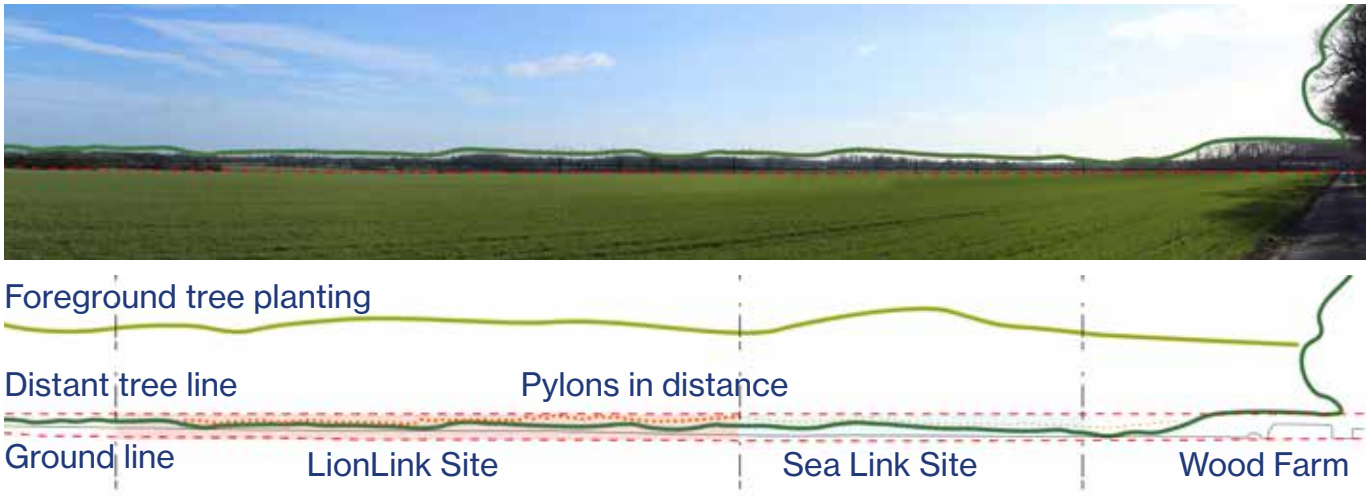



*Fig 75 Study showing the influence of the landscape on the curved roof concept*

*Fig 76 Sketch of the curved roof forms in the proposed landscape*

4.12.15 A curved roof could soften the hard edges of the buildings and help reduce the visual impact. This would alter the silhouette of the building in a way that is less reliant on colours, with the curve being seen as a gradient on the surface.

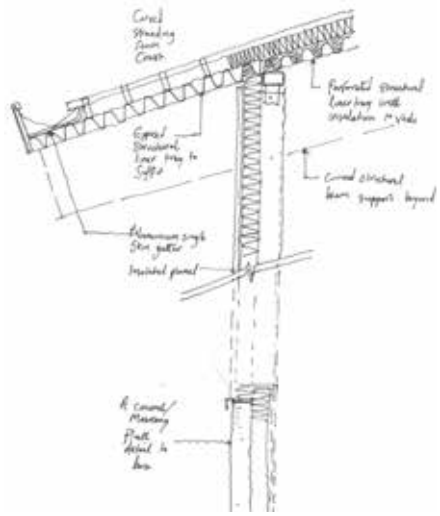


*Fig 77 Study of projecting eaves*

4.12.16 The roof cannot compromise the clear internal heights and needs to avoid adding excess height to the buildings. Therefore, the curvature over the building itself will be gentle. Instead, projecting eaves could be used to turn down and exaggerate the curve, making the roof the main feature of the buildings and making the elevations a background feature.

4.12.17 There are opportunities to vary the projection of the eaves and the verges over the gables to create the sense of more varied forms whilst keeping to a simple two-dimensional curve. The orientation of the gables would match that of the agricultural design approach.

4.12.18 Figures 78 to 80 describe how the curved roof design approach could be applied to the Proposed Converter Station. There is a suggestion that the projecting eaves on the long sides could be cut back in areas to align with variations in the cladding. The gables also indicate that it would be more beneficial to have the projection on the outer facing elevations.

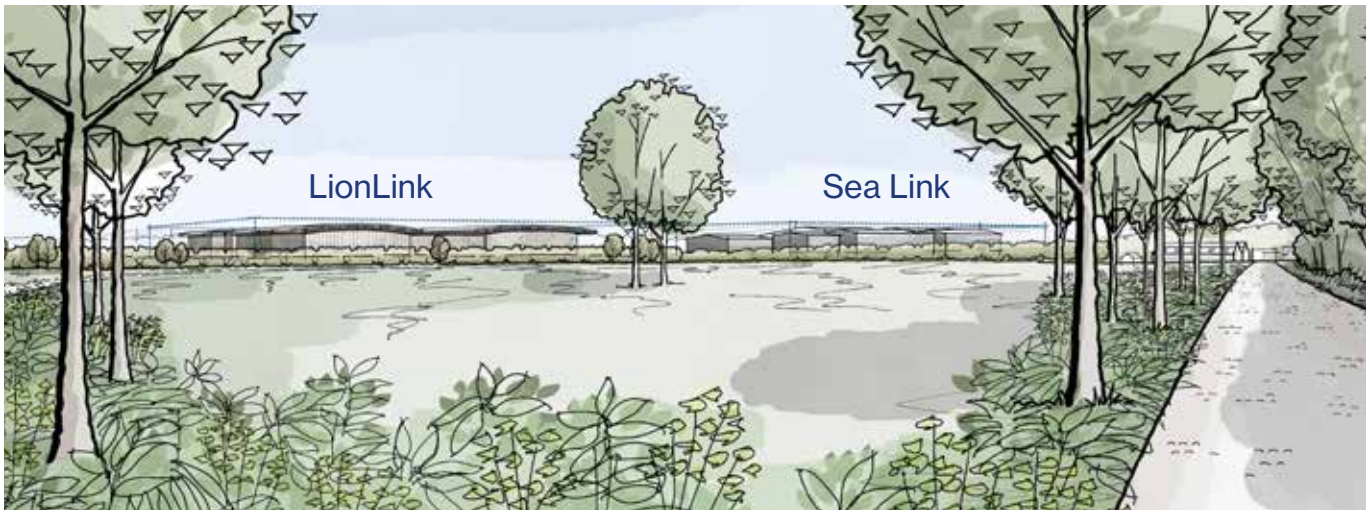



*Fig 78 Illustrative view from Viewpoint 16, Curved Roof Option (foreground trees not shown).*

*Fig 79 Illustrative North Elevation, Curved Roof Option*

*Fig 80 Illustrative East Elevation, Curved Roof Option.*

4.12.19 Some of the initial ideas for next steps, which can be developed in conjunction with the feedback received include:

- develop the colour palette and texture for the roofs noting that upward facing surfaces often appear paler. Greens or greys could be options as well as a profile with an expressed seam;
- develop the colour palette and texture for the cladding noting that it is the secondary feature in this option;
- consider how the gables are articulated, noting that these elevations are more prominent than the sides. This could be an opportunity for integrating the enhanced cladding approach; and
- consider ways to break up the form of the larger buildings integrating the fragmented form design approach.

## Fragmented Forms

4.12.20 The intent for this approach is to break down the apparent scale of the buildings into more familiar proportions, particularly long and tall elevations. It takes inspiration from Snape Maltings as a local example of a large complex made up of various co-joined buildings. There are technical limits to how complex the form can be made, such as clear internal height requirements and the need to avoid features like valley gutters that could leak over the electrical equipment.

*Fig 81 Snape Maltings Aerial Sketch Study*

4.12.21 Sketch studies were undertaken to understand the key characteristics of the buildings, such as massing, articulation and details, and explore how that could be translated onto modern buildings with more constrained forms.

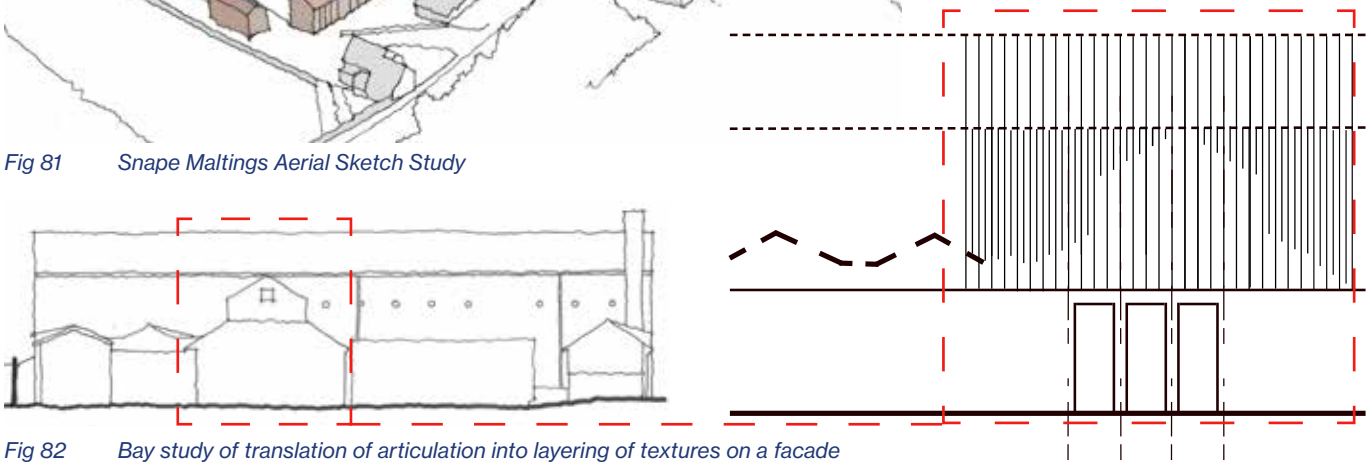


*Fig 82 Bay study of translation of articulation into layering of textures on a facade*

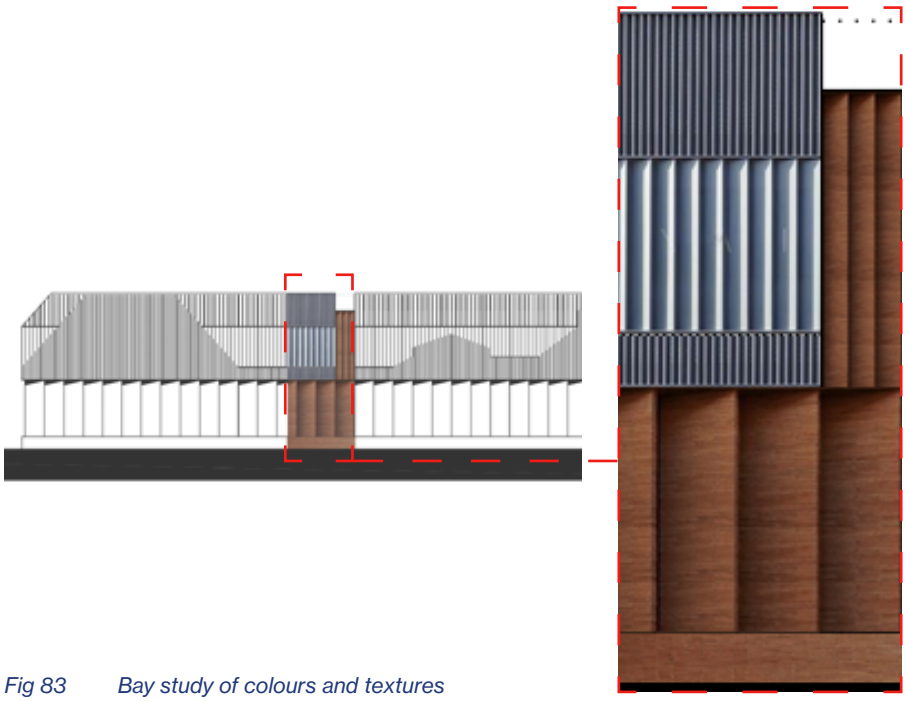


*Fig 83 Bay study of colours and textures*

4.12.22 Development sketches have started to test ways in which the massing could be broken up by; introducing shadow gaps, wrapping the roofing material down the tops of the facades to change the proportions, using contrasting colours and textures that reference traditional materials, and the use of repeating articulation that gives an impression of structural substance.

4.12.23 The perspective and elevation illustrations on this page show how the fragmented forms design approach could be applied to the Proposed Converter Station. The massing of the larger volumes has been broken down to appear as if it is a cluster of more traditional scale industrial or agricultural buildings. A similar language can be applied to the smaller buildings to tie the whole composition together.

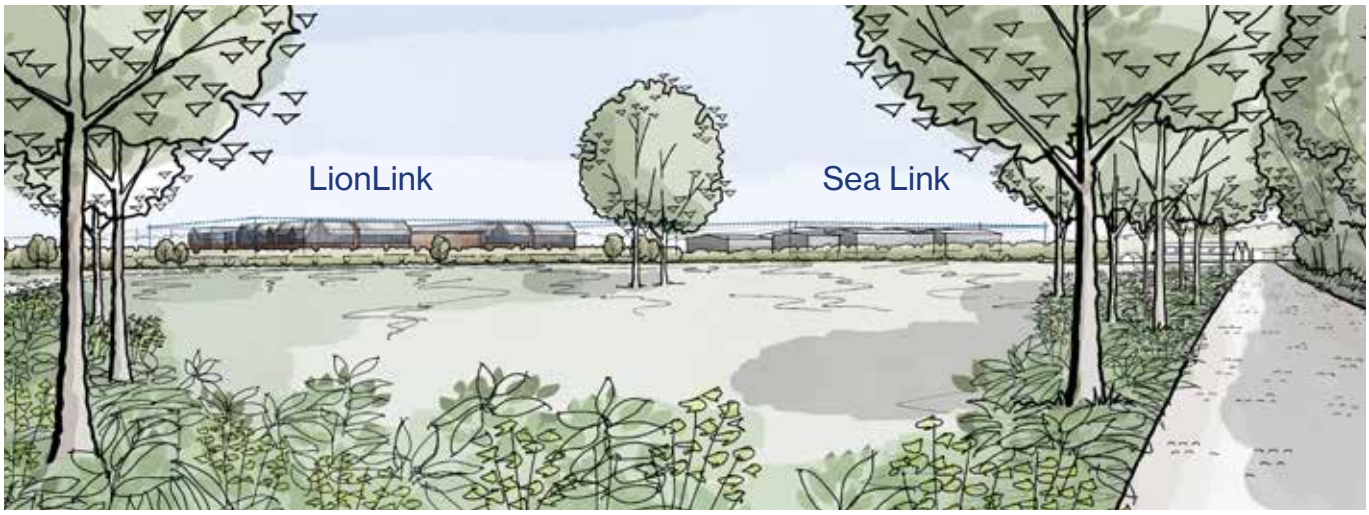



*Fig 84 Illustrative view from Viewpoint 16, Fragmented Form Option (foreground trees not shown)*

*Fig 85 Illustrative North Elevation, Fragmented Form Option*

*Fig 86 Illustrative East Elevation, Fragmented Form Option*

4.12.24 Some of the initial ideas for next steps, which can be developed in conjunction with the feedback received include:

- develop how the fragmented forms can be composed and repeated to create a distinct external envelope;
- consider variation in scale, spacing, and detailing of the forms to create visual interest and enhanced architectural character;
- consider the textures and colours that may work for the forms;
- investigate how the expressed forms can be applied to a conventional shaped technical building without compromising the technical performance. and
- test ways to add more meaning behind the articulation of the forms; for example, an expression of the function and processes undertaken by the equipment hidden within.

# 5. Next Steps

## 5.1 Working towards an application for Development Consent

5.1.1 Feedback provided in response to the consultation, including comments on the design approaches described in this document, will be set out in the Consultation Report that accompanies the application for Development Consent. It will also include the Applicant's responses to the issues raised on all topics.

5.1.2 Further engagement on the design approach will include an independent design review.

5.1.3 Information on how to respond to the statutory consultation and the deadline for doing so can be found on the project website.

### Developing a Design Approach Document (DAD)

5.1.4 This document will be expanded upon and developed into a full DAD which will support the application for Development Consent. It will show how the approach has responded to feedback from each stage of consultation and engagement with Local Planning Authorities (LPAs) and other stakeholders. It is likely to cover:

- Response to the Brief/Vision - defining where and why flexibility is required, and the design intent for place making and providing a coherent narrative that the Projects should follow;
- Design Process - set out how the design approach will be developed in line with the design principles, alongside the design codes, and in response to feedback;
- Site Analysis - show how the constraints and opportunities inform the design approach and response to the context. What is included in this document is a small sample summary of this;
- Research - show how the design approach is informed by precedents; whether local projects that have responded to the context, or other Converter Stations that show how the technical constraints of the development type can be addressed; and
- Design Response - show how adverse effects could be addressed, show design evolution in response to consultation exercises and design reviews.

## Developing a set of Design Codes

5.1.5 This document will be developed through consultation with the Local Planning Authorities (LPAs) and other statutory stakeholders. The Design Code will respond to the Design Vision and Project Level Design Principles in the **Design Principles**, building upon the Site-Specific Project level design principles in Table 3 of that document. The Design Principles will define the design of the permanent above ground infrastructure associated with the Proposed Converter Station and be structured in line with the National Model Design Code.

5.1.6 By following this structure the codes will be aligned with those that have already been developed for Sea Link, allowing the two projects to be coordinated.

# 6. References

Department for Levelling Up, Housing & Communities (2021) National Model Design Code: Part 2 – Guidance Notes. [PDF]. Available at: https://assets.publishing.service.gov.uk/media/6111531fd3bf7f043c4badd1/NMDC_Part_2_Guidance_Notes.pdf (Accessed: 20 August 2025).

Criteria for good design in Energy Infrastructure (2023). Overarching National Policy Statement for Energy (EN-1). [PDF] November 2023. Available at: https://assets.publishing.service.gov.uk/media/65bbfbdc709fe1000f637052/overarching-nps-for-energy-en1.pdf (Accessed: 19 August 2025).

National Infrastructure Commission (2024) Design Principles Handbook: Guidance from the National Infrastructure Commission Design Group. May 2024. [PDF]. Available at: https://nic.org.uk/app/uploads/NIC-Design-Principles-Handbook-Digital-PDF.pdf (Accessed: 20 August 2025)

Nationally Significant Infrastructure Projects: Advice on Good Design (2024). Annex A – Good Design Issues to Consider. GOV.UK. Published 23 October 2024; last updated 16 April 2025. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructureprojects- advice-on-good-design#annex-a--good-design-issues-to-consider (Accessed: 20 August 2025).

## Figure Credits

6.1.1 All diagrams, photographs and sketches in the figures provided in the document have been prepared by the Applicant's design team with the exception of the following:

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Fig 11 - Sizewell B (no date) The Suffolk Coast. [online] ~~Available at: https://www.thesuffolkcoast.co.uk/things-to-do/attractions/sizewell-b-visitorscentre~~ (Accessed: 20 July 2025)

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Fig 26 - The Sizewell C Project, Main Development Site Design and Access Statement Part 2 of 3, page 27 [online] Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010012-002204-SZC_Bk8_8.1_Design_and_Access_Statement_Part_2_of_3.pdf

Fig 29 - Viking Link, Bicker Fenn, Lincolnshire (no date) BBC News. [online] Available at: https://www.bbc.co.uk/news/uk-england-lincolnshire-67841922 (Accessed 20 July 2025)

Fig 30 - Viking Link, Revsing, Denmark (no date) CXweb. [online] Available at: https://cxweb.dk/2021/03/19/cxweb-viking-link/ (Accessed: 20 July 2025)

Fig 31 - Hunterston Converter Station, Scotland (no date) Virtual Hunterston [online] Available at: http://virtual.hunterston.eu/industry/converter.htm (Accessed: 20 July 2025)

Fig 32 - Baixas converter station [online] Available at: https://www.windpowermonthly.com/article/1343089/gallery-france-spain-2gw-hvdc-link

Fig 33 - Arklow Wastewater Treatment Plant [online] Available at: https://www.archdaily.com/1029788/arklow-waste-water-treatment-plant-clancy-moore-architects

Fig 34 - SUEZ Energy from Waste Facility [online] Available at: https://grimshaw.global/projects/industry-and-energy/suez-energy-from-waste-facility/

Fig 35 - Ademia Office Building [online] Available at: https://www.archdaily.com/778504/ademia-office-building-and-industrial-warehouse-joao-mendes-ribeiro/5667a15be58ece70b60006a2-ademia-office-building-and-industrial-warehouse-joao-mendes-ribeiro-photo?next_project=no

Fig 36 - New Power Station, Baku [online] Available at: https://ecarch.com/projeler/new-power-station/

Fig 37 - Sizewell, East Suffolk (no date) Wikimedia Commons [online] Available at: https://commons.wikimedia.org/wiki/File:Sizewell_A_and_Sizewell_B_beyond_-_geograph.org.uk_-_643224.jpg (Accessed: 20 July 2025)

Fig 38 - HS2 Infrastructure Maintenance Depot, Calvert (no date) HS2 [online] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://assets.hs2.org.uk/wp-content/uploads/2022/09/HS2-Calvert-YSWD-Boards_FINAL_Opt.pdf (Accessed: 20 October 2025)

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Fig 68 - The Sizewell C Project, Main Development Site Design and Access Statement Part 2 of 3, page 28 [online] Available at: https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010012-002204-SZC_Bk8_8.1_Design_and_Access_Statement_Part_2_of_3.pdf

**National Grid Lion Link Limited**
Company number 14722364
1-3 Strand
London
WG2N-5EH
United Kingdom
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