Community Liaison Group Meeting

July 2024

Agenda

- Terms of reference
- Introductions
- Project Update
  - Survey activity
  - Examination high level update with timeline
  - Outer Dowsing in the community

Local Design Panel

- The Design Review Process
- The Onshore Substation
- Design review elements
- Feedback from DRP
- Timeline & Next Steps
- Q&A

Terms of Reference and Aims

Our Aims …

To involve key local stakeholders in the design and development of the Outer Dowsing Offshore Wind project (landfall, onshore cable route and substation) through presentations, discussions and planned workshop activities.

To act as a two-way communication channel between local communities and the project team.

To help foster local involvement and ownership of the project.

To facilitate focused discussions and ensure attendees can make the most out of the CLG's – it is intended for these groups to be focused on concerns/ issues / thoughts relative to their specific **local area.**

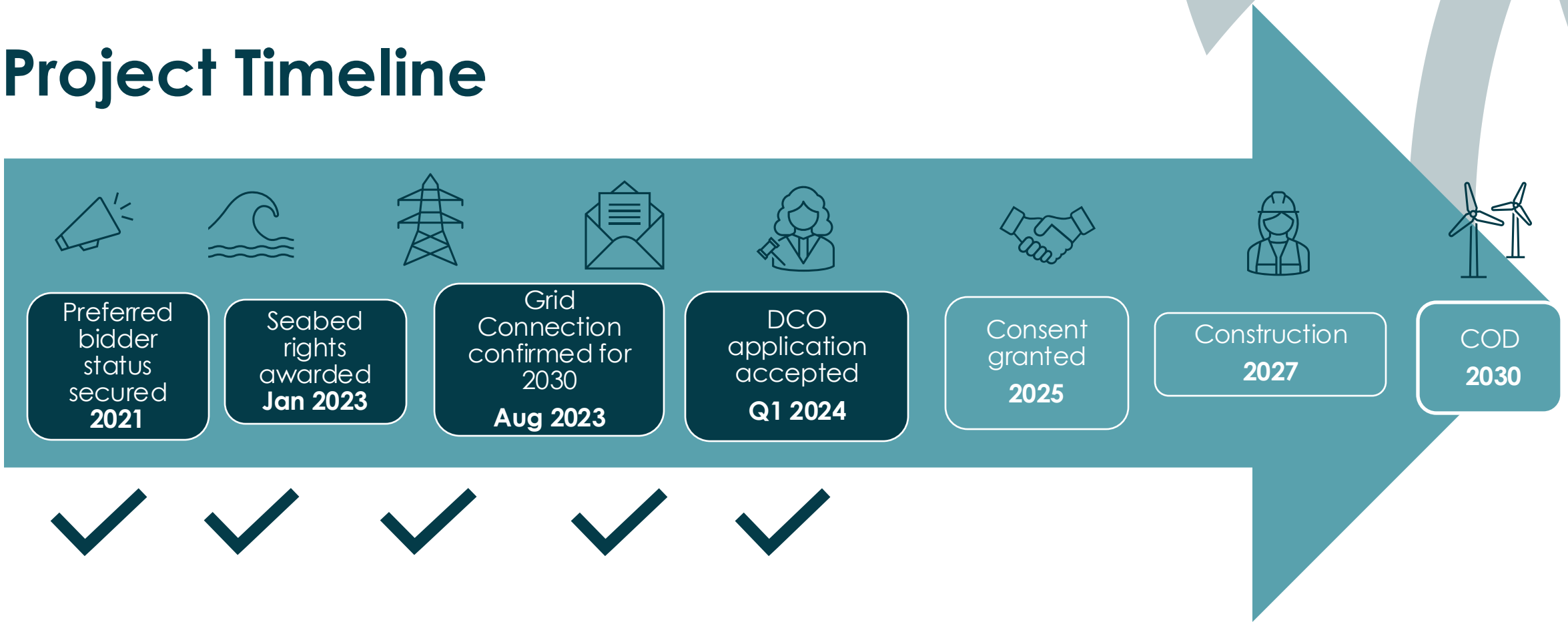
Approval of previous minutes

Any comments or queries prior to the meeting?

Declaration of Conflicts of Interests.

Project Update

Project Timeline



OUTER DOWSING OFFSHORE WIND

DCO Examination Process – DCO accepted on 16th April

Current position

Submit Application
- PINS reviews application – it has 28 days (fixed) to accept it.
- Docs published soon after on PINS website

Application Accepted
- ODOW undertakes S.56 acceptance tasks to notify landowners and stat. stakeholders of Acceptance & Relevant Reps period
- Newspaper Notices published 24th April & 1st May
- Site Notices installed along cable route & substation

Relevant Representation Period
- Registration Period.
- Deadline for registration and submission of Relevant Representation 13th June.

Notice of Preliminary Meeting
- Usually 2-3 weeks after close of Relevant Representation period
- Examination Panel's 1st questions published.
- Indicative Examination Timetable

Preliminary Meeting (1 day)
- Usually 28 days after Notice of Preliminary Meeting (PM)
- Further questions published from Examining Authority (ExA) 7 days after PM

Examination
- 6 month period of Hearings & Written Questions (+ 3 weeks to allow for Christmas/NY break)
- Hearings expected to start immediately after the Preliminary Meeting
- Issue Specific, Open Floor, Compulsory Acquisition, etc.
- Multiple deadlines of written questions.

ExA drafts Report to SoS
- ExA Report (3 months)
- Further questions requested, if required

SoS draft Recommendation
- SoS Report (3 months)
- Further questions requested, if required

Judicial Review Window
- 6 weeks (fixed)

OUTER DOWSING OFFSHORE WIND

Survey update

Activity	Location	Timing and Duration
Offshore geophysical surveys	Various offshore locations	July until later in the year
Onshore geophysical site investigations	Lincolnshire fields	Completed in June
Onshore geotechnical boreholes and trial pits	Lincolnshire fields	Completed in May
Nearshore Geotechnical works (seabed survey)	Off the coast from Anderby Creek	Due for completion by end of July
Onshore Archaeology Excavation	Lincolnshire fields	July - September

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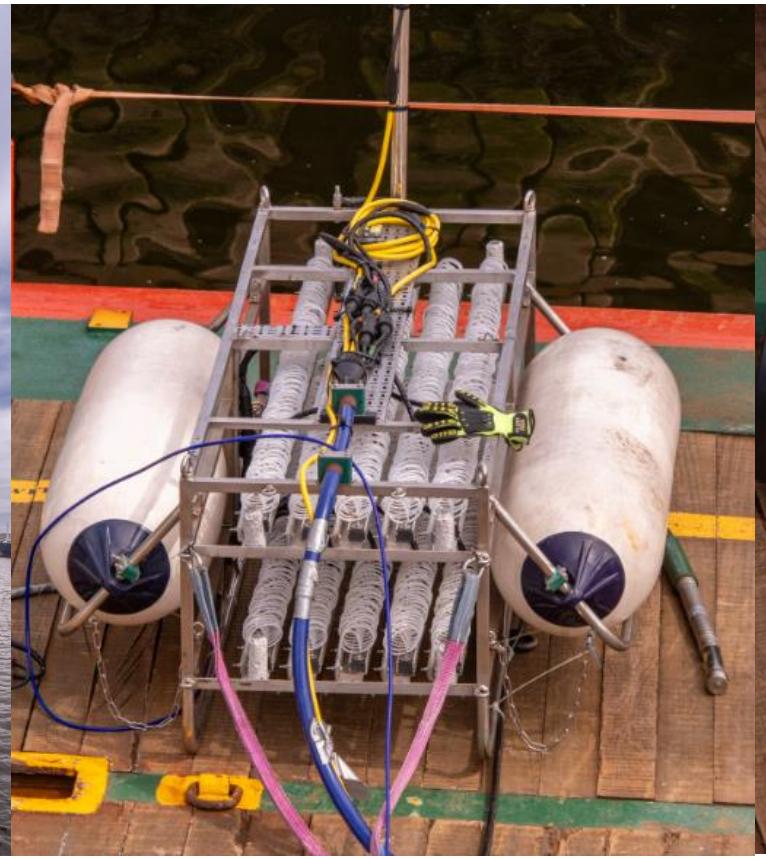
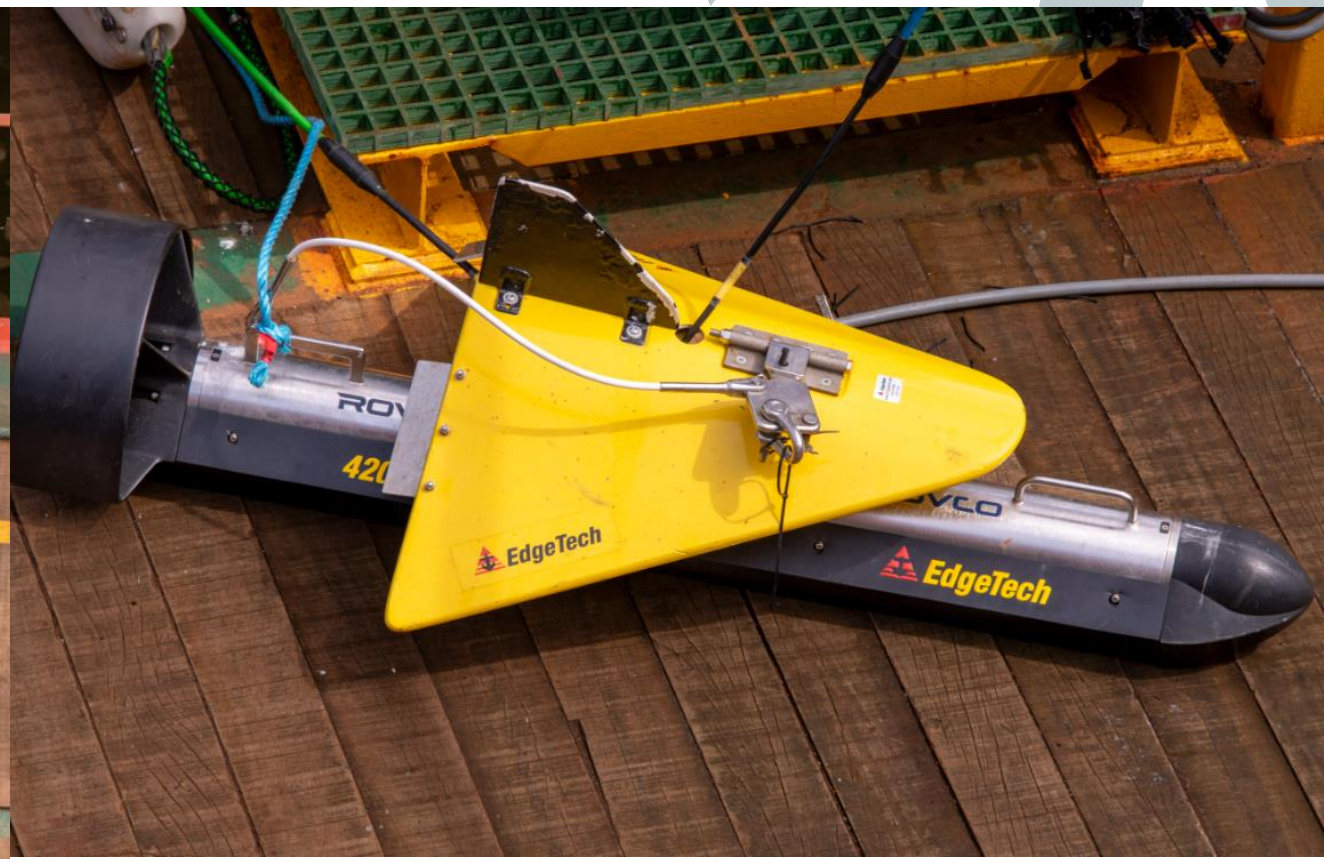
Offshore Geophysical, Environmental & Geotechnical Surveys 2024





OUTER DOWSING OFFSHORE WIND

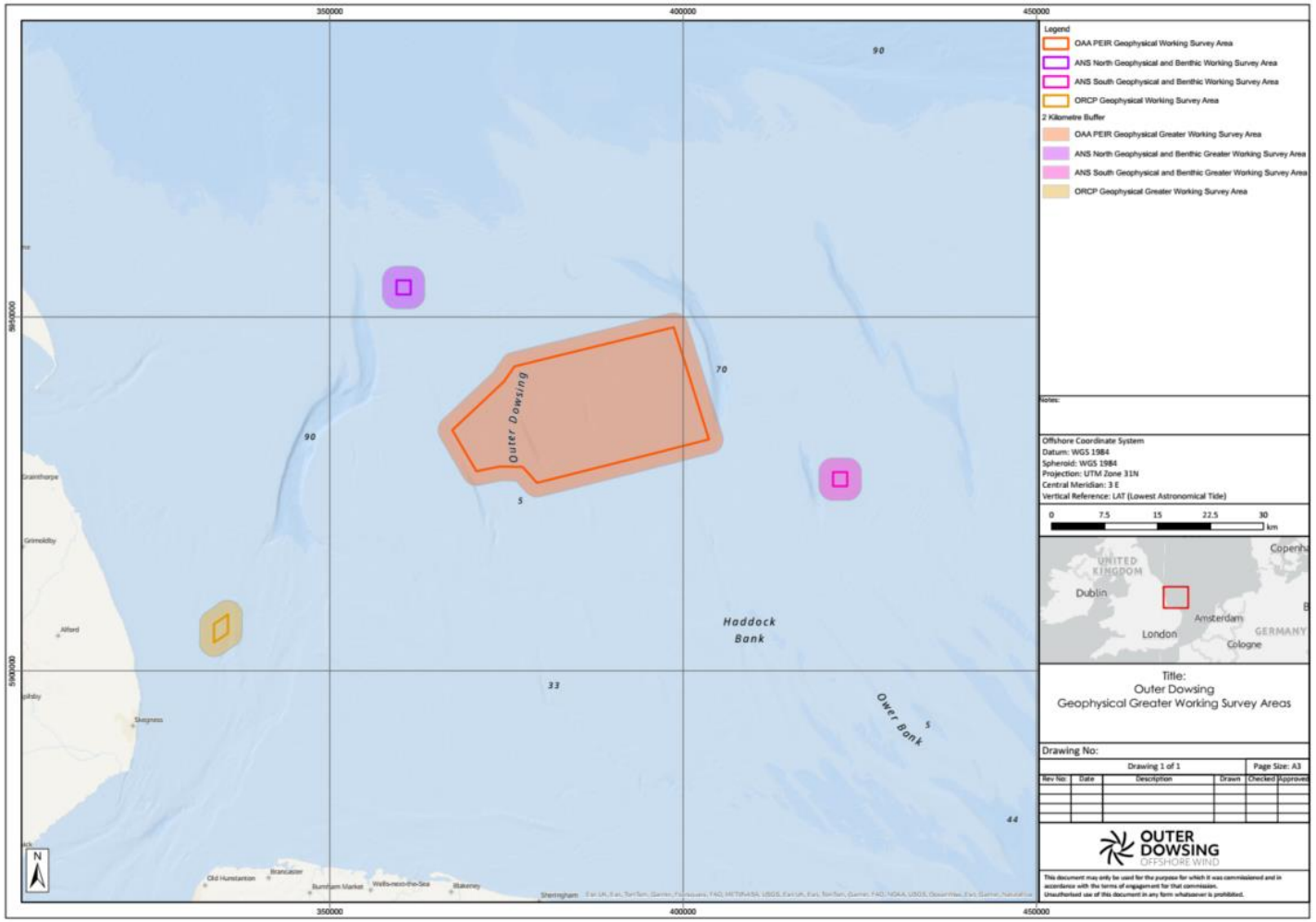
Offshore Geophysical & Environmental Surveys 2024

Offshore Geophysical Survey 2024

Outer Dowsing Offshore Wind (a joint venture between TotalEnergies, Corio Generation and Gulf Energy) are conducting a 2 month offshore geophysical survey between 27th May and 18th July 2024 using the vessel *Glomar Supporter* call sign: HOAL. The survey vessel shall at times be towing a cable up to approximately 100m behind the vessel (the end marked by a tail buoy) at depths of up to 3m below sea level. The survey vessel shall have limited maneuverability so please allow a safe distance. The survey vessel is also accompanied by a Guard / Scout vessel.

Company:	Outer Dowsing Offshore Wind
Contractor:	ROVCO Limited
Survey Vessel:	Glomar Supporter
Survey Vessel call sign:	HOAL
Earliest Start date:	27th May 2024
Latest Finish date:	18th July 2024

Company:	Outer Dowsing Offshore Wind
Contractor:	NFFO Services Limited
Guard/Scout Vessel:	Atlas WY170
Guard Scout Vessel call sign:	MPUD3



OUTER DOWSING OFFSHORE WIND

Geotechnical Seabed Survey – Visible from Anderby Creek

What is happening?

This work is related to the Outer Dowsing Offshore Wind farm. Construction of the wind farm and associated onshore infrastructure will not begin until 2027 at the earliest, but ahead of the construction it is necessary to carry out various surveys to get samples of the subsurface to plan the engineering. The geotechnical jack-up rig you can see will take a small sample of the soil and rocks below the seabed which will then be analysed by our engineers to plan the underground cable installation works.

Why are you doing this?

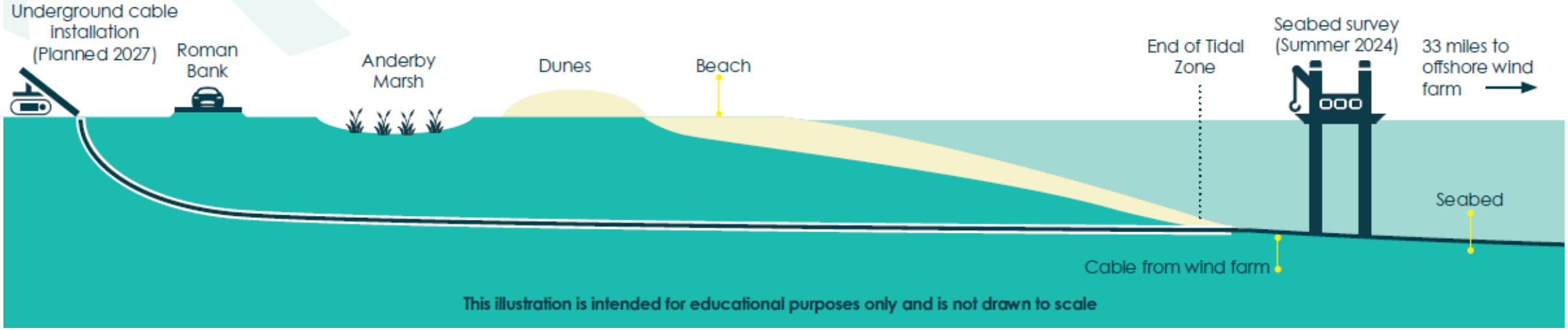
Outer Dowsing Offshore Wind is a wind farm planned to be built in the North Sea, 54km (33 miles) offshore. To avoid impacts to the beach and surrounding sensitive areas, we will bring the electrical cables ashore using horizontal directional drilling. The plan is to install the cable from a field west of the Roman Bank, under the sensitive areas until it is past the tidal zone.

How long will the survey take?

The geotechnical jack-up rig will be doing works just offshore, past the tidal zone, for a period of approximatively 3 weeks from July 1st. The beach will remain open and there will be no works on the beach.

Keeping safe

During operations it is important that we keep everyone safe. Please therefore refrain from approaching the vessel or interacting with it, or the crew, in any way so that they can complete their works safely and to schedule.

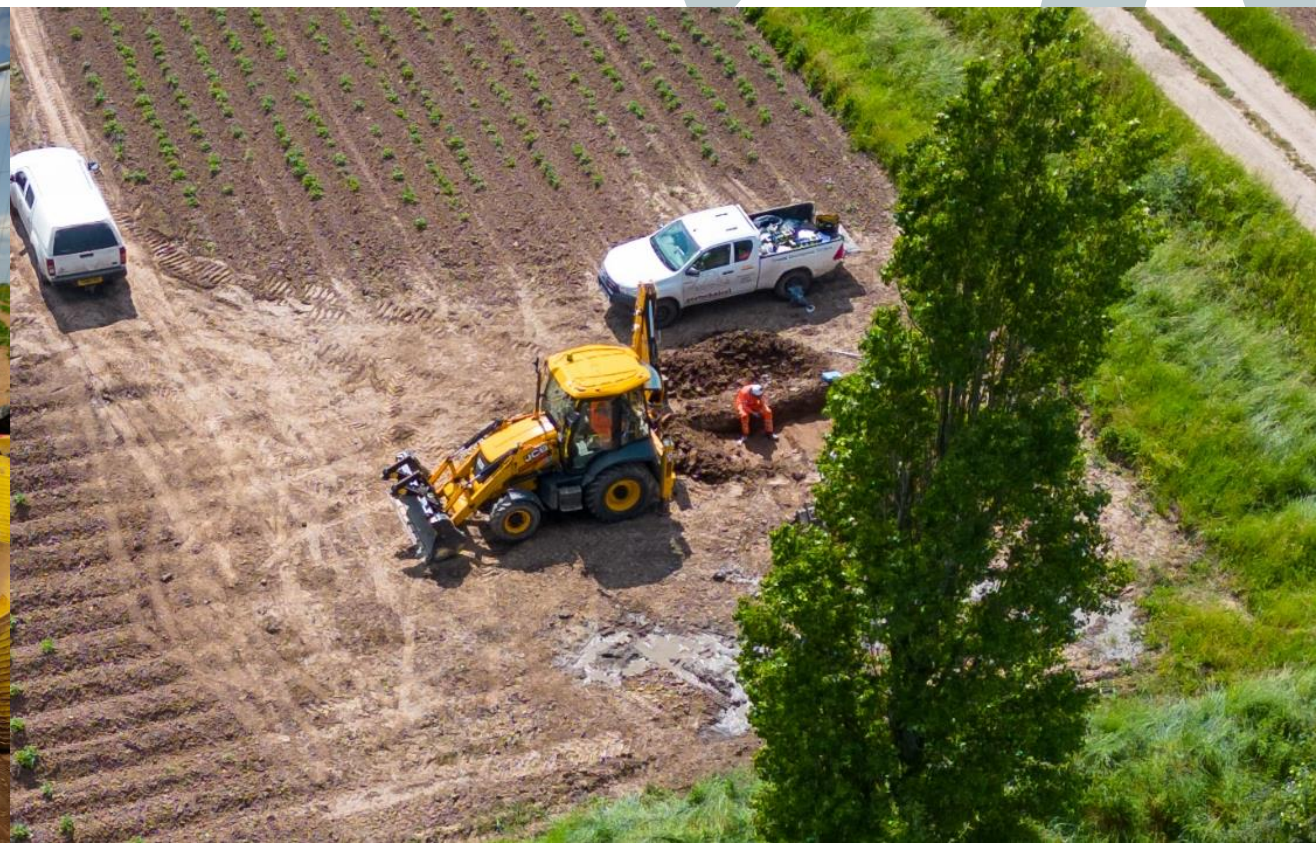


OUTER DOWSING OFFSHORE WIND

Onshore geophysical investigations – *Completed*

OUTER DOWSING OFFSHORE WIND

Onshore engineering and archaeology boreholes and trial trenches



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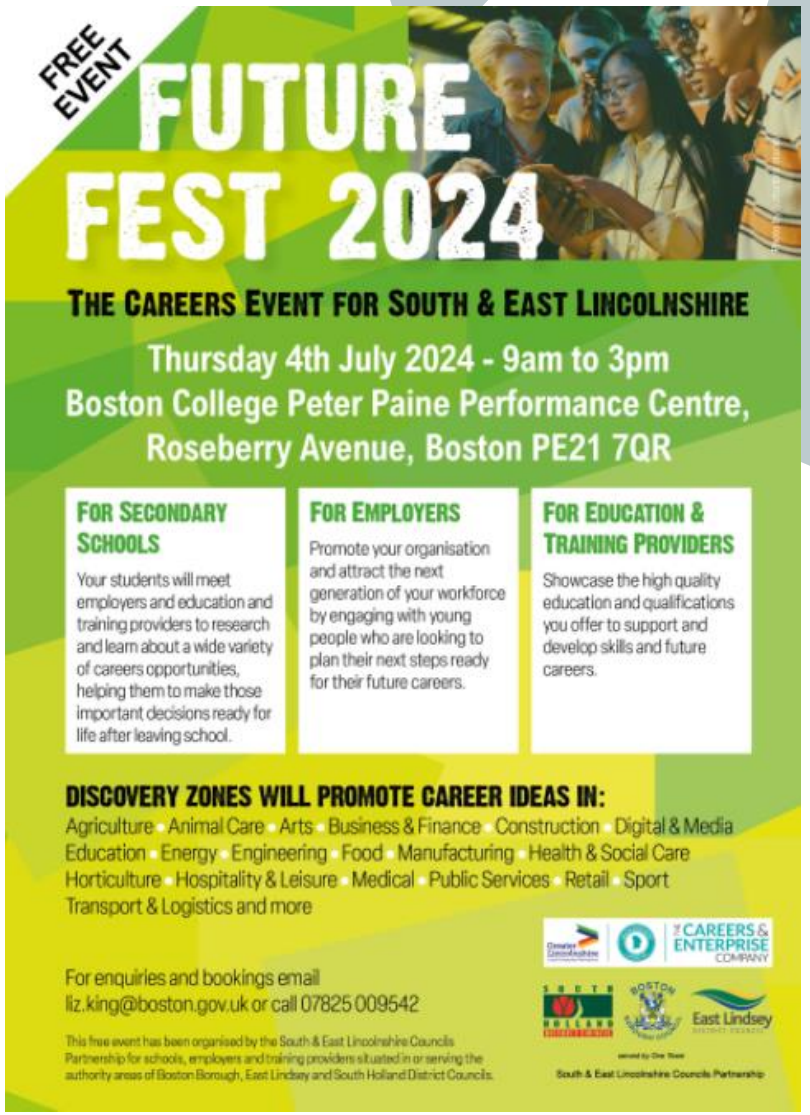
Outer Dowsing in the community

OUTER DOWSING
OFFSHORE WIND

Inspiring the young engineers of the future



OUTER DOWSING OFFSHORE WIND

The Lincolnshire Show

OUTER
DOWSING
OFFSHORE WIND

Investing in the UK

We will work to Maximize investment in the UK supply chain and create skilled jobs

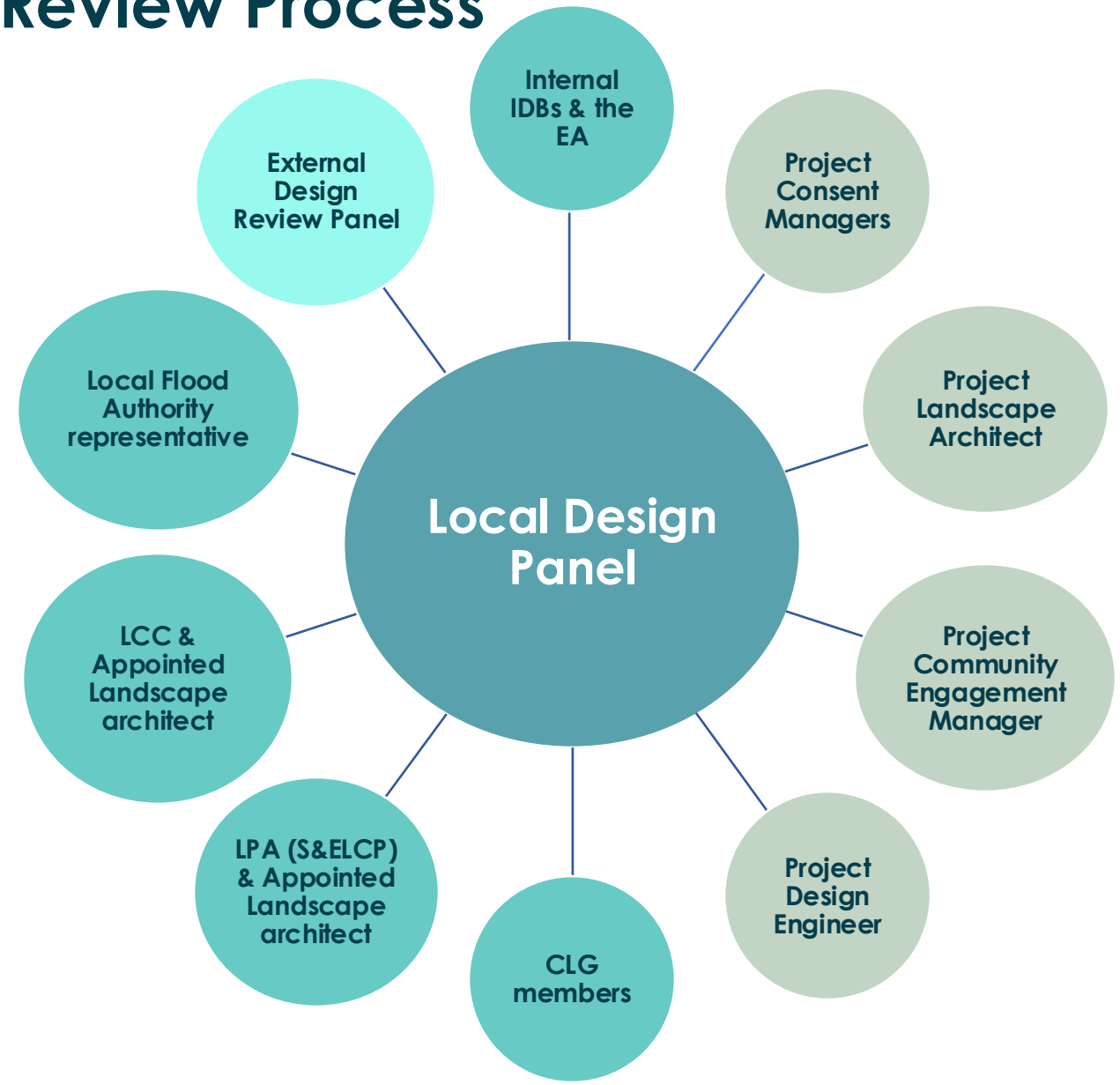
- Over **£2billion** estimated investment in the UK
- Over **1000 UK-based** skilled jobs during construction
- Over **400 UK-based** skilled jobs during operations for 35 years
- **STEM program** launched to inspire next generation of engineers
- **Community Benefit Fund** to launch after FC

OUTER DOWSING OFFSHORE WIND

Design Review Process

The Onshore Substation Design Review Process

- Local Design Panel first meeting (LDP-1) in January 2024
- **External Design Review – Undertaken 11 June**
- Engineers to assess technical requirements & progress detailed design
- Local Design panel will be consulted as the design progresses



Maximum Design Scenario

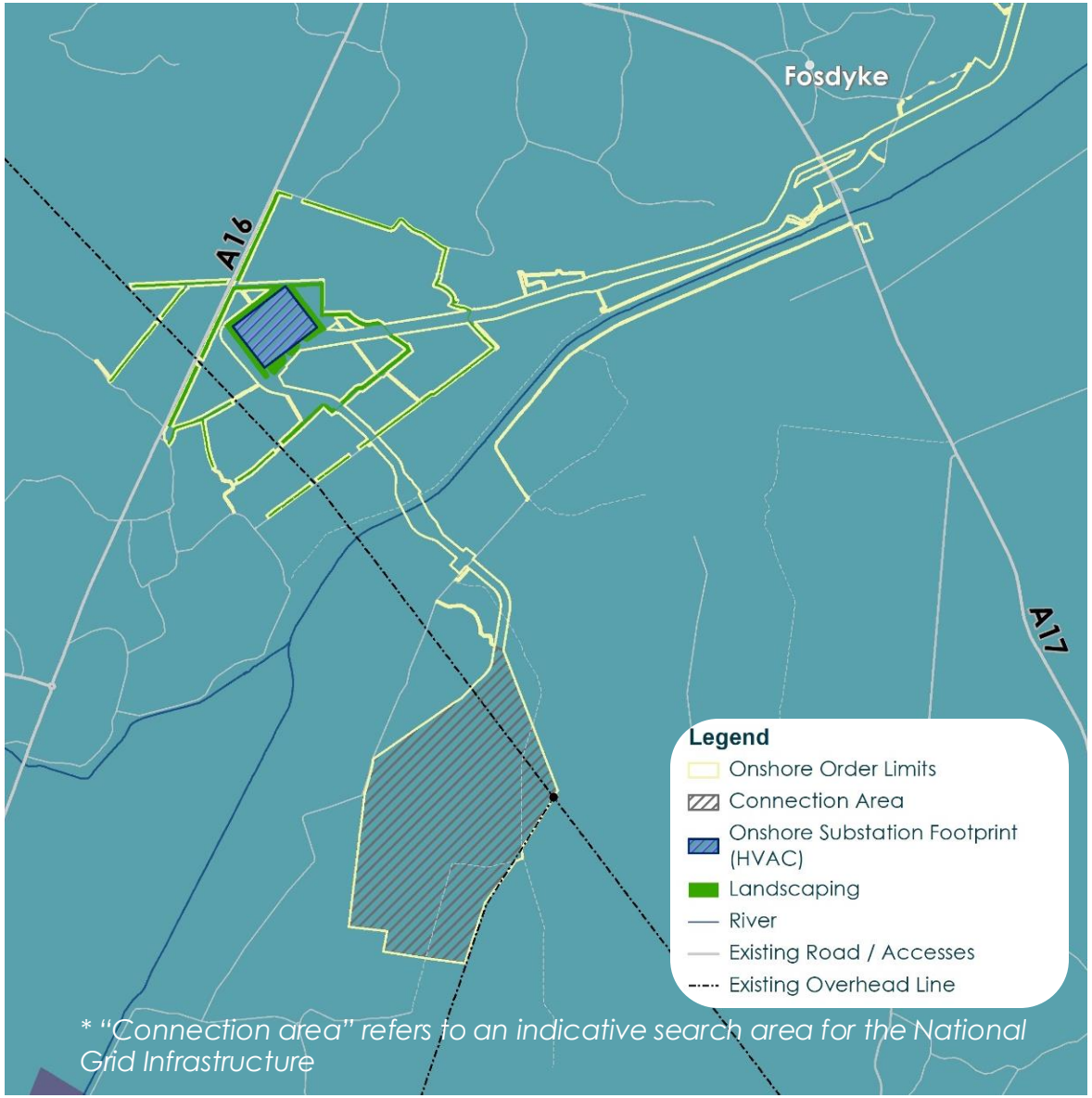
- "Worst case scenario"
- Defined based on two potential technologies still under consideration that will impact the footprint and maximum heights of buildings:
  - **Air Insulated Switchgear (AIS)**
  - **Gas Insulated Switchgear (GIS)**

The Onshore substation (OnSS)

Onshore substation

- Following a **decision from the National Grid** that our connection point would be in the vicinity of Weston Marsh, we were able to remove Lincs Node from our Project Scope.
- We subsequently selected **Surfleet Marsh** as the optimum site for our substation taking into account multiple factors including engineering and environmental considerations.
- There will also be a need for a National Grid substation and associated enabling works within the vicinity of the project's onshore substation which we will connect to using 400kV underground cables which will run between our project substation and that which will be developed by National Grid Electricity Transmission

1 **Confirmed** Grid Connection Location	1 **Confirmed** Substation Location	14.5 **hectares** Onshore AIS Substation Footprint	13m Onshore AIS Max. Equipment Height	16.5m Onshore GIS Substation Max. Building Height
Down from **2 options**	Down from **3 search zones**	Up from **9.5 hectares**	Up from **12m**	Down from **19m**



** "Connection area" refers to an indicative search area for the National Grid Infrastructure*

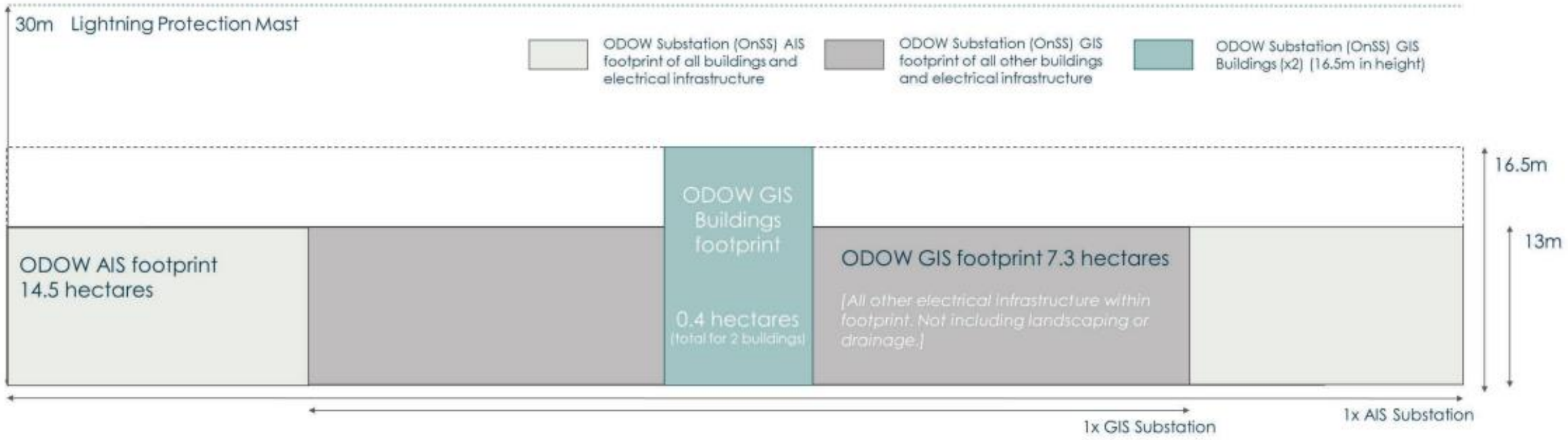
Functional requirements of a substation

The substation area indicated enables the installation and operation of either an AIS (Air Insulated Switchgear) or GIS (Gas Insulated Switchgear) type substation*. From a transmission perspective, AIS or GIS transmits the power generated offshore to meet the grid requirements. The main considerations for the substation are as follows:

- **Insulation Medium:** The AIS uses air as the insulation medium between conductors and equipment, whereas the GIS employs a specialist gas in modular units. GIS equipment offers reduced footprint and maintenance requirements. The switchgear in AIS is outdoors, and GIS is installed indoors and requires additional building.
- **Size and Space:** The AIS substations require a larger footprint, whereas the GIS substations are compact and space-efficient. The AIS maximum height is 13m, whereas the GIS Convertor Hall(s) in a GIS substation could be up to 16.5m in height. *These maximum parameters are represented by a white dashed line on the visualisations.*

**The electrical system design and technology from the Supply chain will impact the selection of the substation.*

Maximum Design Parameters



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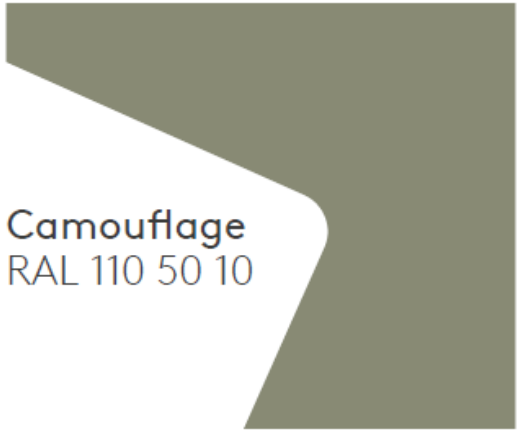
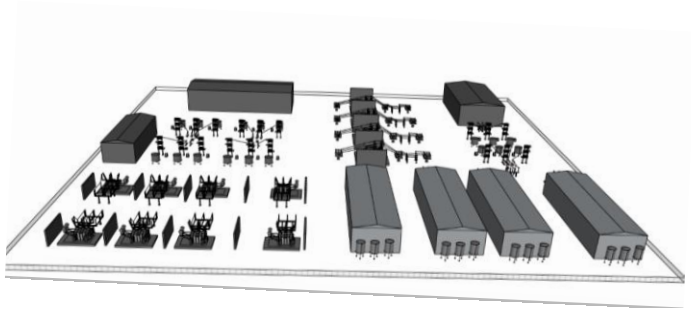
Post Application Design review elements

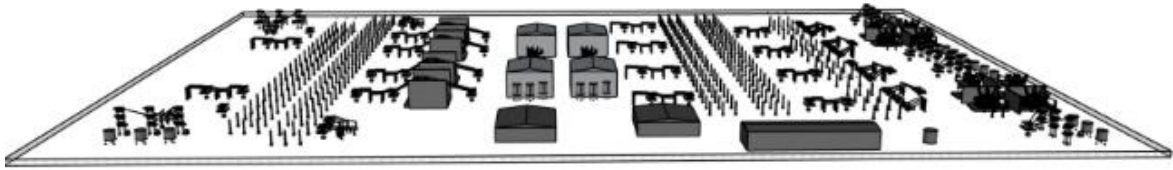
Cladding colour & Roof shape options explored



Above colour options picked out by OPEN following review of both summer & winter photography.



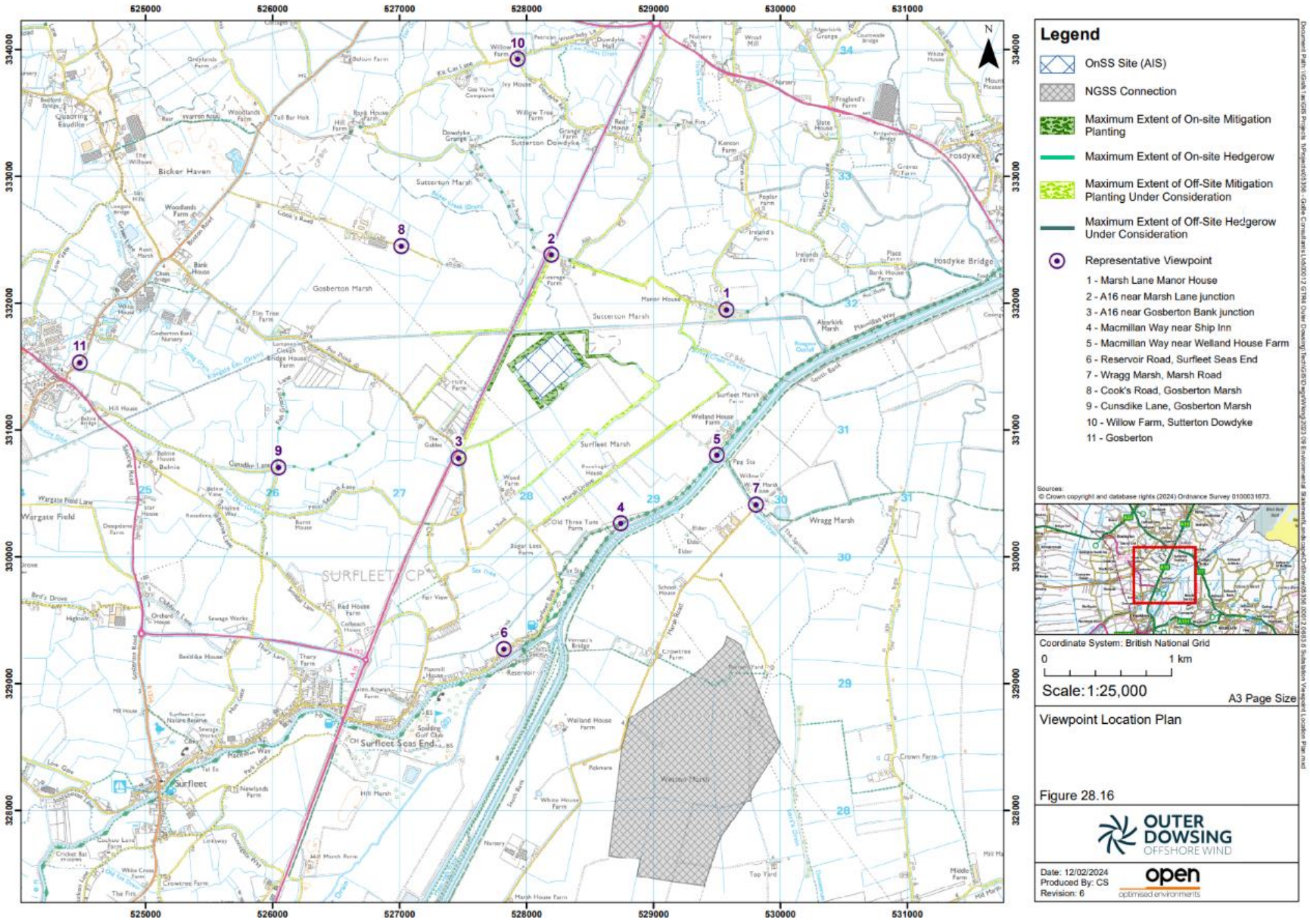
GIS



AIS

Pitched roof models generated to show the difference aesthetically opposed to the flat roof models in the ES visualisations.

Viewpoint locations



VP2

OS reference:	528195E 332380N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor:** 150% @A1	
Eye level:	6 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	181°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	0.7 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 13:43:09		

Figure 2b - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Khaki Green
Viewpoint 2: A16 near Marsh Lane junction
OUTER DOWSING OFFSHORE WIND

VP4

OUTER DOWSING OFFSHORE WIND

OS reference:	528743E 330263N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor: 150% @A1**
Eye level:	9 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4	
Direction of view:	335°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m	
Distance to site:	1.2 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 12:42:24	

Figure 2b - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Khaki Green
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

VP2

OS reference:	528195E 332380N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor:**	150% @A1
Eye level:	6 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	181°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	0.7 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 13:43:09		

Figure 2c - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Camouflage
Viewpoint 2: A16 near Marsh Lane junction
OUTER DOWSING OFFSHORE WIND

VP4

OS reference:	528743E 330263N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor: 150% @A1**	
Eye level:	9 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	335°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	1.2 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 12:42:24		

Figure 2c - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Camouflage
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

VP2

OS reference:	528195E 332380N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor:** 150% @A1	
Eye level:	6 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	181°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	0.7 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 13:43:09		

Figure 2d - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Beige Grey
Viewpoint 2: A16 near Marsh Lane junction
OUTER DOWSING OFFSHORE WIND

VP4

OS reference:	528743E 330263N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor:**	150% @A1
Eye level:	9 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	335°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	1.2 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 12:42:24		

Figure 2d - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Beige Grey
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

VP2

OUTER DOWSING OFFSHORE WIND

OS reference:	528195E 332380N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor: 150% @A1**	
Eye level:	6 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4		
Direction of view:	181°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m		
Distance to site:	0.7 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 13:43:09		

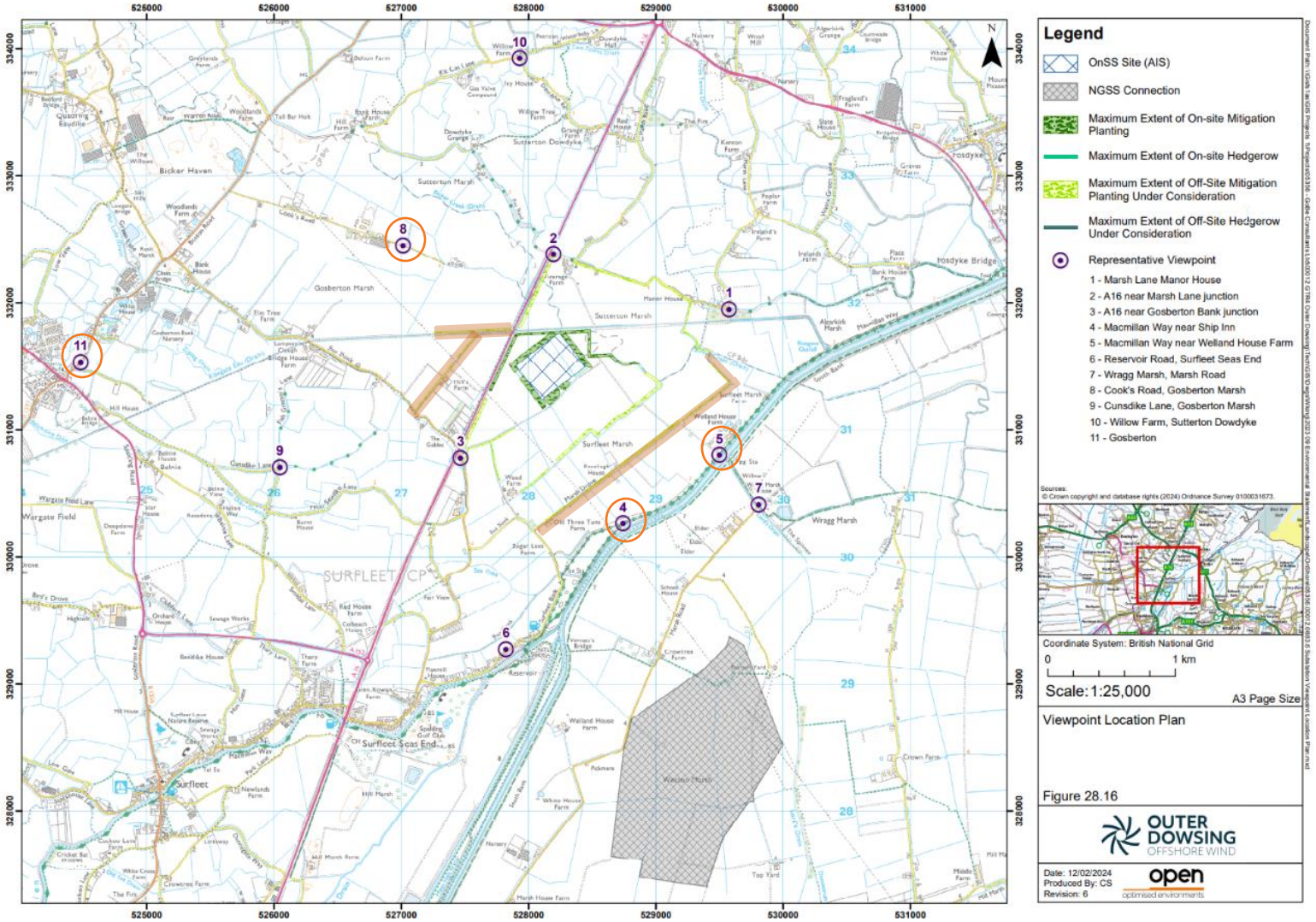
Figure 2e - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Olive Green
Viewpoint 2: A16 near Marsh Lane junction
OUTER DOWSING OFFSHORE WIND

VP4

OS reference:	528743E 330263N	**Horizontal field of view:**	53.5° (planar projection)	**Camera:**	Canon EOS 6D	**Enlargement Factor: 150% @A1**
Eye level:	9 m AOD	**Principal distance:**	812.5 mm	**Lens:**	Canon EF 50mm f/1.4	
Direction of view:	335°	**Paper size:**	841 x 297 mm (half A1)	**Camera height:**	1.5 m	
Distance to site:	1.2 km	**Correct printed image size:**	820 x 260 mm	**Date and time:**	08/10/2022, 12:42:24	

Figure 2e - Proposed GIS Onshore Substation (GIS OnSS) Indicative Model - Olive Green
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

Discussion – proposal for refined planting scheme (AIS)



▬ **Bands proposed that could be removed under an AIS scenario**

VP	Comment	Proposal
4	Closer range band of trees removed but no appreciable difference in screening effect form this viewpoint.	Area 2 -section south-west of cable crossing could potentially be removed
5	Closer range band of trees removed and screening effect reduced slightly.	Area 2 – section north-east of cable crossing suggested to be retained
8	Tree belt to south-east removed with no appreciable difference in screening effect from this viewpoint.	Area 1 could be removed
11	Tree belt to east removed with no appreciable difference in screening effect from this viewpoint.	Area 1 could be removed

VP4

ES
Planting

Refined
Planting

VP5

ES
Planting

Refined
Planting

VP8

ES
Planting

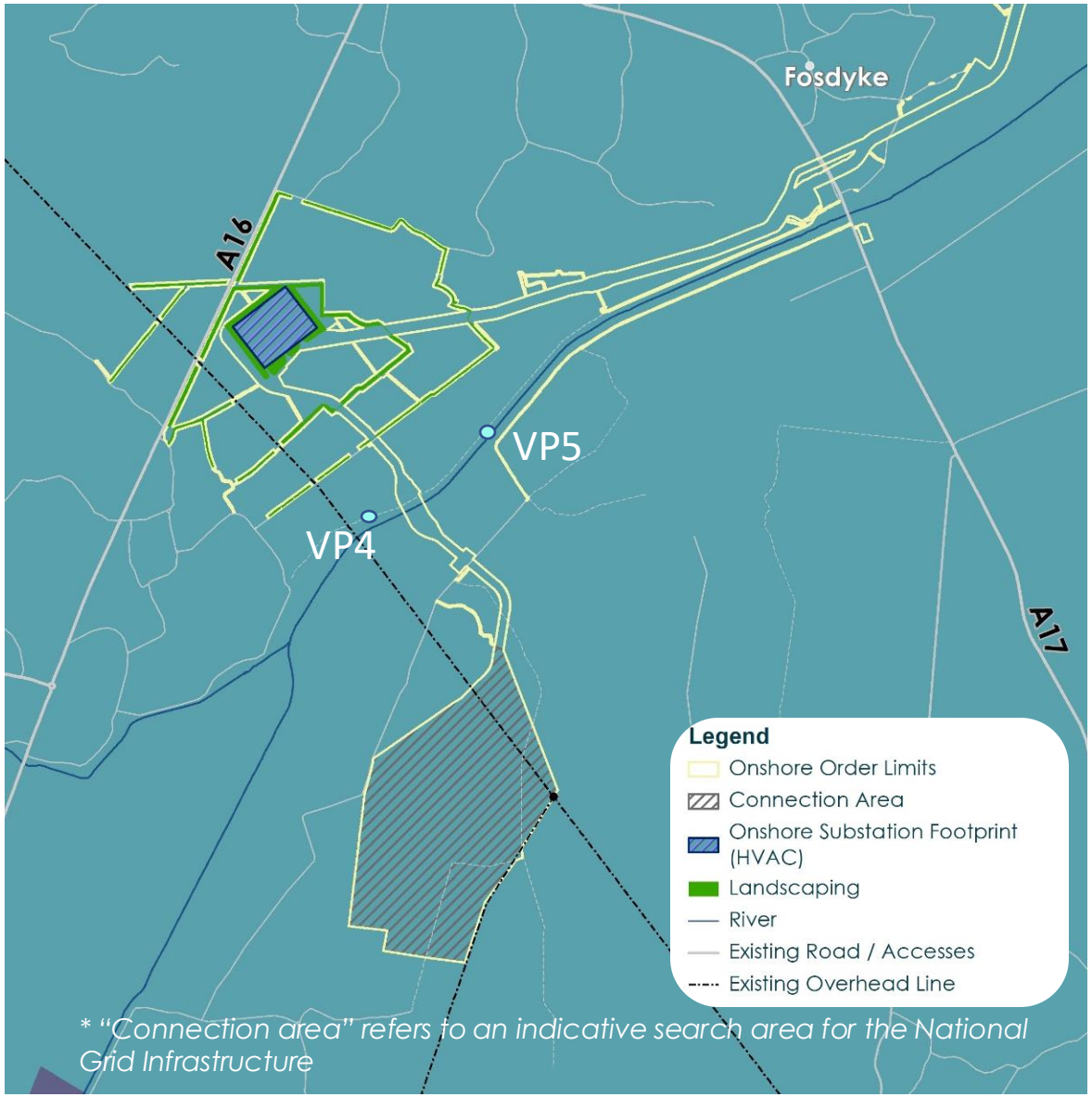
Refined
Planting

VP11

ES
Planting

Refined
Planting

Cumulative Impacts



A cumulative assessment including Visualisations (based on an indicative location within the connection area and typical parameters) has been included in the DCO application documents.

- Noting the location of the **Connection Area** *(the indicative search area for the National Grid substation)* relative to the Project substation – the planting strips will be an effective screen for those viewpoints that would be affected by both of these infrastructures.
- The cumulative Visualisations are based on both VP4 & VP5 on Macmillan Way

VP4 – Cumulative (before)

OS reference:	528743E 330263N	Horizontal field of view:	53.5° (planar projection)	Camera:	Canon EOS 6D	Enlargement Factor: 150% @A1
Eye level:	9 m AOD	Principal distance:	812.5 mm	Lens:	Canon EF 50mm 1/1.4	
Direction of view:	164°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m	
Distance to site:	1.7 km	Correct printed image size:	820 x 260 mm	Date and time:	08/10/2022, 12:42:24	

Figure 28-20f - Existing Baseline Photograph
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

VP4 – Cumulative (with NGSS envelope)

OS reference:	528743E 330263N	Horizontal field of view:	53.5° (planar projection)	Camera:	Canon EOS 6D	Enlargement Factor: 150% @A1	
Eye level:	9 m AOD	Principal distance:	812.5 mm	Lens:	Canon EF 50mm f/1.4		
Direction of view:	164°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m		
Distance to site:	1.7 km	Correct printed image size:	820 x 260 mm	Date and time:	08/10/2022, 12:42:24		

Figure 28-20g - Proposed National Grid Onshore Substation Location and Search Area
Viewpoint 4: Macmillan Way near Ship Inn
OUTER DOWSING OFFSHORE WIND

VP5 – Cumulative

OS reference:	529500E 330799N	Horizontal field of view:	53.5° (planar projection)	Camera:	Canon EOS 6D	Enlargement Factor: 150% @A1	
Eye level:	9.1 m AOD	Principal distance:	812.5 mm	Lens:	Canon EF 50mm f/1.4		
Direction of view:	184°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m		
Distance to site:	2.1 km	Correct printed image size:	820 x 260 mm	Date and time:	08/10/2022, 12:58:41		

Figure 28-21f - Existing Baseline Photograph
Viewpoint 5: Macmillan Way near Welland House Farm
OUTER DOWSING OFFSHORE WIND

VP5 – Cumulative

OS reference:	529500E 330799N	Horizontal field of view:	53.5° (planar projection)	Camera:	Canon EOS 6D	Enlargement Factor: 150% @A1	
Eye level:	9.1 m AOD	Principal distance:	812.5 mm	Lens:	Canon EF 50mm f/1.4		
Direction of view:	184°	Paper size:	841 x 297 mm (half A1)	Camera height:	1.5 m		
Distance to site:	2.1 km	Correct printed image size:	820 x 260 mm	Date and time:	08/10/2022, 12:58:41		

Figure 28-21g - Proposed National Grid Onshore Substation Location and Search Area
Viewpoint 5: Macmillan Way near Welland House Farm
OUTER DOWSING OFFSHORE WIND

Planting proposals – Increasing biodiversity, decreasing visual impacts, flood reduction and capturing carbon

Up to 130,000 trees and hedgerows would be added to the Lincolnshire landscape.

Up to 19 hectares would be planted, equivalent to 27 football fields with long term management plan.

Up to 1.6 miles of Hedgerow containing diverse species that support bats, birds and other species.

130 Biodiversity Action Plan species associated with hedges:
Lichens, fungi and reptiles.

Bank vole, harvest mouse and hedgehog all nest and feed in hedgerows alongside birds including; blue tit, yellowhammer and whitethroat.

Suggested species for planting


Quercus petraea (Sessile oak)


Alnus glutinosa (Alder)


Tilia cordata (Small leaved Lime)


Salix alba (White Willow)


Betula pubescens (Downy Birch)


Populus nigra (Black poplar)


Populus tremula (Aspen)


Acer campestre (Field maple)


Prunus padus (Bird Cherry)


Salix caprea (Goat Willow)


Salix cinerea (Sallow)


Cornus sanguinea (Dogwood)


Viburnum opulus (Guelder Rose)


Ilex aquifolium (Holly)

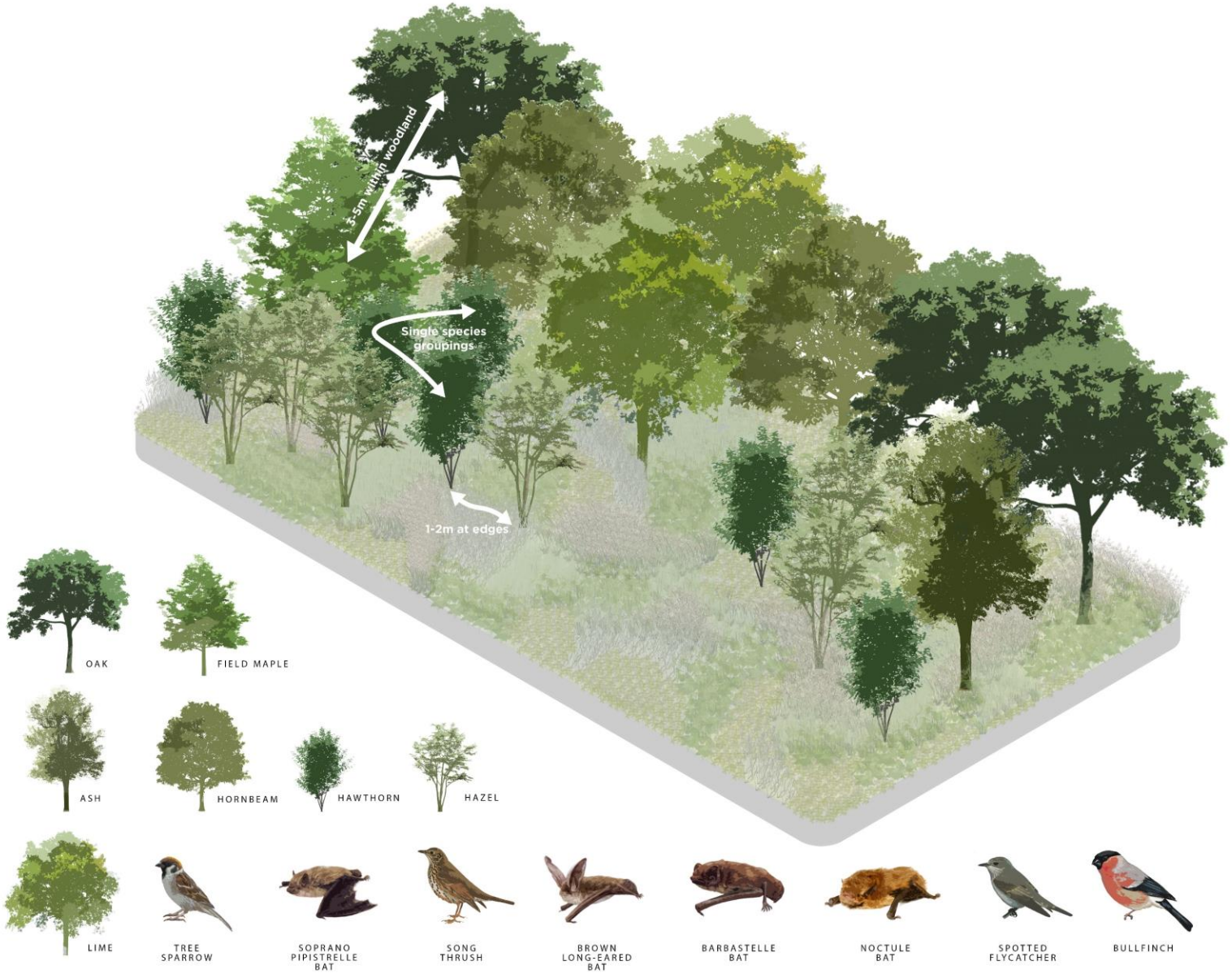

Sambucus nigra (Elder)


Corylus avellana (Hazel)

Hedgerows
Crateagus monogyna (Hawthorn)
Acer campestre (Field maple)
Cornus sanguinea (Dogwood)
Viburnum opulus (Guelder Rose)
Ilex aquifolium (Holly)
Prunus padus (Bird Cherry)
Sambucus nigra (Elder)
Quercus petraea (Sessile oak)
Pyrus sp. (Pear)
Hippophae rhamnoides (Sea Buckthorn)
Corylus avellana (Hazel)

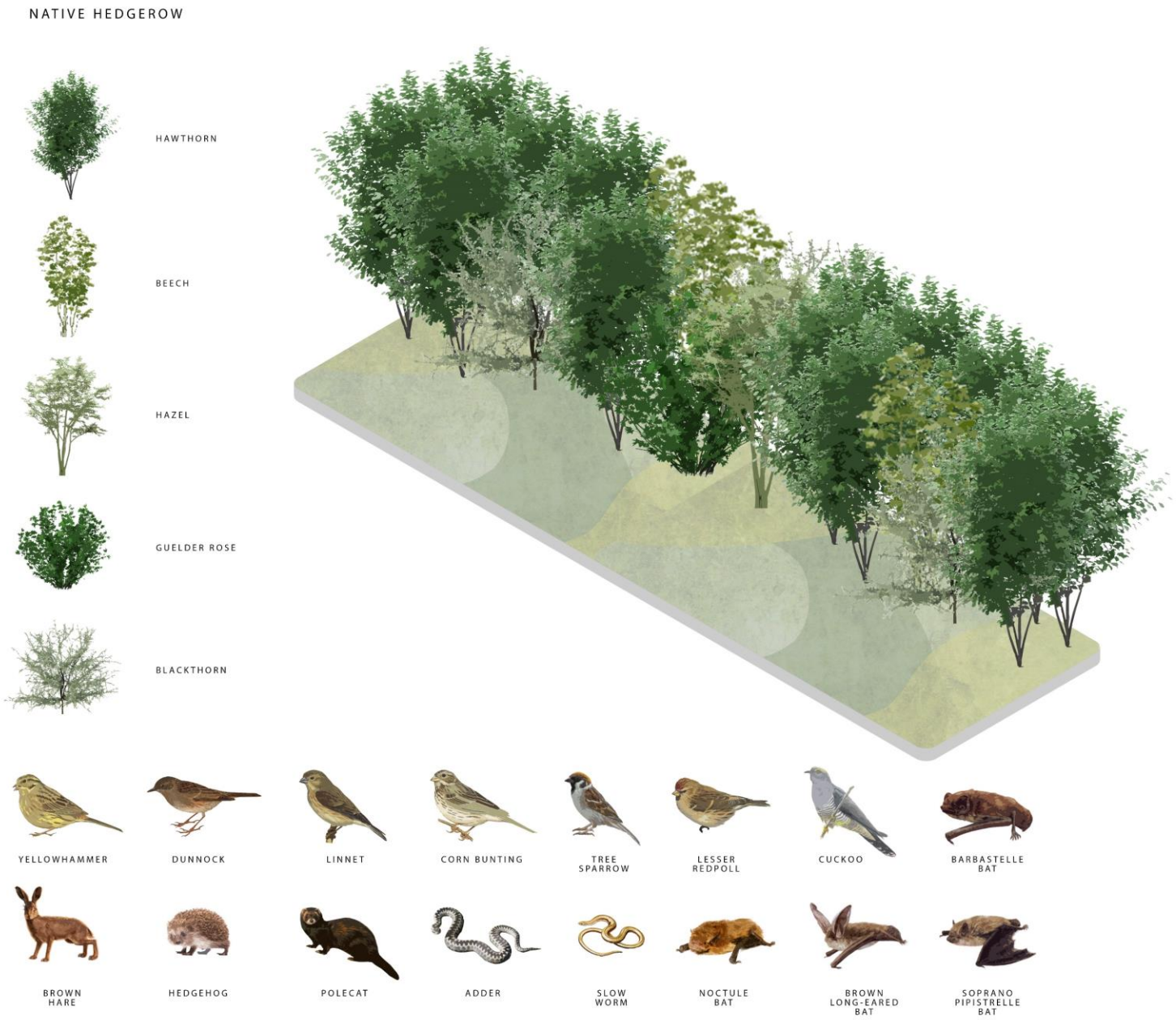
"We have a mixed native hedge at the rear of our garden. 10 years since planting (next March). It is in excess of 12 feet high and is cut back by about 5 feet every winter. I would expect the planting to be an effective screen before 15 years (we have hawthorn, field maple, wild privet, wild rose, blackthorn plus several other species)" ***Autumn Consultation Feedback Form***

Example: LOWLAND DECIDUOUS MIXED WOODLAND



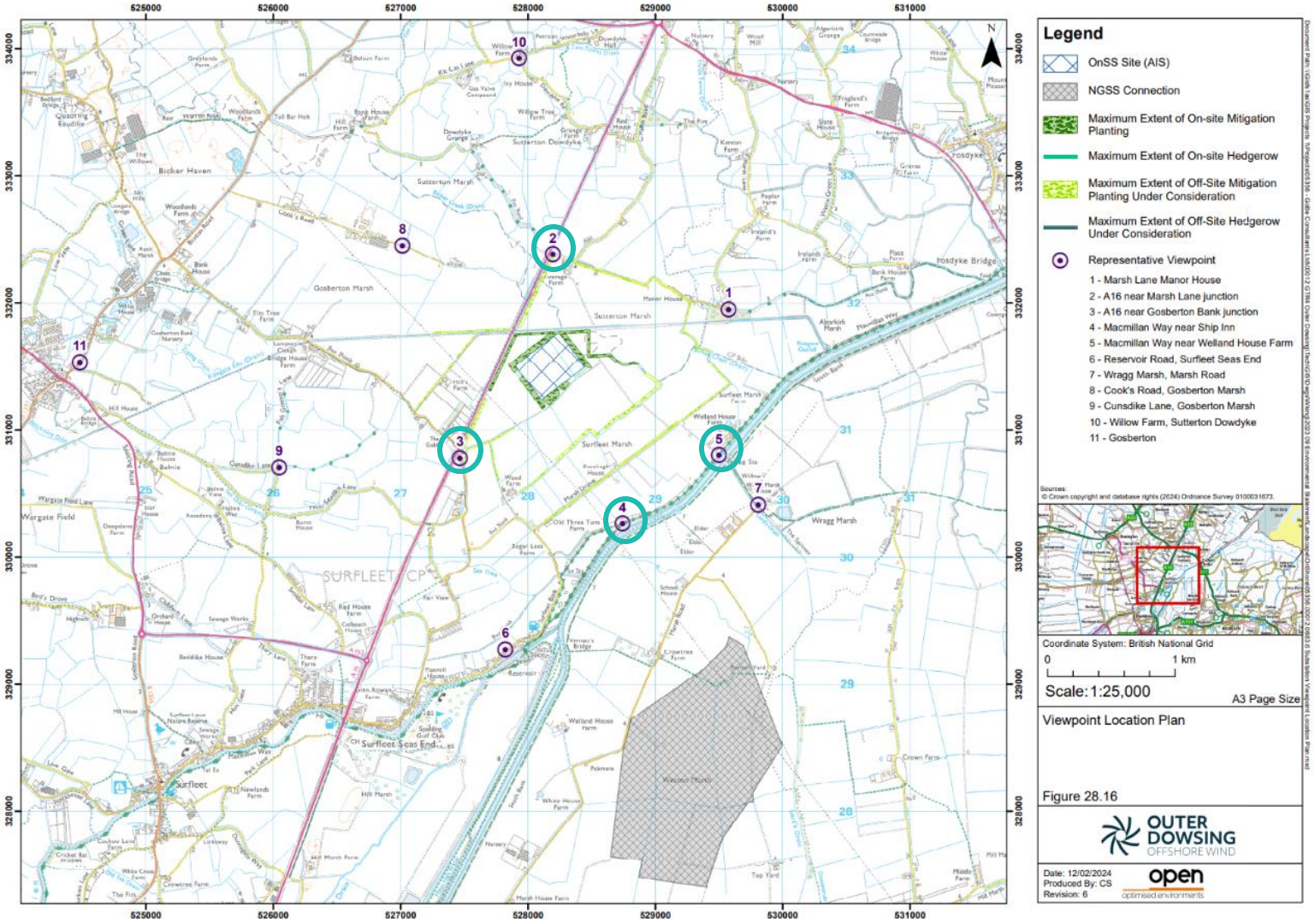
OUTER DOWSING OFFSHORE WIND

Example:



OUTER DOWSING OFFSHORE WIND

DRP Site tour



External ‘Design Review Panel’ Feedback & LDP discussion

Timeline and next steps

Consultation on Landscaping proposals & proposed plant species (including updated Visualisations) through our Autumn Consultation & CLGs.

Feedback taken on board & proposals updated.

Local Design Panel (LPD1) Kick Off Meeting 31 Jan 2024

Winter Photography underway Jan/ Feb 2024

Progress Visuals based on feedback from LDP 1 Q1/Q2 2024

External Design Review 11 Jun 2024

Local Design Panel Meeting 2 (LDP2) 03 July 2024

To discuss future engagement

Autumn Consultation → Targeted Consultation → Submission of the DCO (Q1) → DCO examination H2 2024 → Consent Decision 2025 → Construction begins 2026/2027 → First power 2030

OUTER DOWSING OFFSHORE WIND

Q&A