



# MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

## Environmental Statement

Volume 3, Annex 10.3: Visual baseline technical report



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## Glossary

Term	Meaning
400 kV grid connection cables	Cables that will connect the proposed onshore substations to the existing National Grid Penwortham substation.
400 kV grid connection cable corridor	The corridor within which the 400 kV grid connection cables will be located.
Baseline	The status of the environment without the Transmission Assets in place.
Candidate viewpoint	Photographic viewpoint locations identified through a desktop analysis, to be visited during site surveys.
Environmental Impact Assessment	The process of identifying and assessing the significant effects likely to arise from a project. This requires consideration of the likely changes to the environment, where these arise as a consequence of a project, through comparison with the existing and projected future baseline conditions.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment process.
Landfall	The area in which the offshore export cables make landfall (come on shore) and the transitional area between the offshore cabling and the onshore cabling. This term applies to the entire landfall area at Lytham St. Annes between Mean Low Water Springs and the transition joint bay inclusive of all construction works, including the offshore and onshore cable routes, intertidal working area and landfall compound(s)
Morgan and Morecambe Offshore Wind Farms: Transmission Assets	The offshore and onshore infrastructure connecting the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm to the national grid. This includes the offshore export cables, landfall site, onshore export cables, onshore substations, 400 kV grid connection cables and associated grid connection infrastructure such as circuit breaker compounds.  Also referred to in this report as the Transmission Assets, for ease of reading.
Onshore export cables	The cables which would bring electricity from the landfall to the onshore substations.
Onshore export cable corridor	The corridor within which the onshore export cables will be located.
Onshore Order Limits	See Transmission Assets Order Limits: Onshore (below).
Onshore substations	The onshore substations will include a substation for the Morgan Offshore Wind Project: Transmission Assets and a substation for the Morecambe Offshore Windfarm: Transmission Assets. These will each comprise a compound containing the electrical components for transforming the power supplied from the generation assets to 400 kV and to adjust the power quality and power factor, as required to meet the UK Grid Code for supply to the National Grid.
Photomontages	A sequence of photographs taken from representative viewpoints which illustrate the location, size, degree of visibility or appearance of a development.

Term	Meaning
Preliminary Environmental Information Report	A report that provides preliminary environmental information in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017. This is information that enables consultees to understand the likely significant environmental effects of a project and which helps to inform consultation responses.
Study area	This is an area which is defined for each environmental topic which includes the Transmission Assets Order Limits as well as potential spatial and temporal considerations of the impacts on relevant receptors. The study area for each topic is intended to cover the area within which an impact can be reasonably expected.
Substation	Part of an electrical transmission and distribution system. Substations transform voltage from high to low, or the reverse by means of electrical transformers.
Transmission Assets	See Morgan and Morecambe Offshore Wind Farms: Transmission Assets (above).
Transmission Assets Order Limits	The area within which all components of the Transmission Assets will be located, including areas required on a temporary basis during construction and/or decommissioning.
Transmission Assets Order Limits: Onshore	The area within which all components of the Transmission Assets landward of Mean High Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds).  Also referred to in this report as the Onshore Order Limits, for ease of reading.
Visual receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Zone of Theoretical Visibility	A map, usually digitally produced, showing areas of land within which, a development is theoretically visible.

## Acronyms

Acronym	Meaning
ES	Environmental Statement
GPS	Global Positioning System
LCA	Landscape Character Area
PRoW	Public Right of Way
LVIA	Landscape and Visual Impact Assessment
TGN	Technical Guidance Note

## Units

Unit	Description
%	Percentage
°	Degrees
km	Kilometres
m	Metre
mm	Millimetre

# 1 Visual baseline technical report

## 1.1 Introduction

1.1.1.1 This document forms Volume 3, Annex 10.3: Visual baseline technical report of the Environmental Statement (ES) prepared for the Morgan and Morecambe Offshore Wind Farms: Transmission Assets (hereafter referred to as ‘the Transmission Assets’). The ES presents the findings of the Environmental Impact Assessment process for the Transmission Assets.

1.1.1.1 This document provides visual baseline information and analysis for the Transmission Assets that will form part of the assessment presented within Volume 3, Chapter 10: Landscape and visual resources of the ES.

## 1.2 Methodology

### 1.2.1 Study area

1.2.1.1 The Transmission Assets, landscape and visual resources study area (hereafter referred to as the ‘study area’) has been based on appropriate buffers and the findings of an analysis of the Zone of Theoretical Visibility that are illustrated on **Figure 1.1** and described below.

- A 5 km buffer around the outer edge of the onshore substations which would include the area of land to be temporarily and permanently occupied during construction, operation and maintenance and decommissioning of the onshore substations. The substations comprise operational infrastructure up to 15 m high, which has the potential to influence receptors up to 5 km from the Transmission Assets. Beyond 5 km from the Transmission Assets, there is no potential for significant adverse effects to occur.
- A 1 km buffer around the area of land to be temporarily occupied during construction within the landfall, onshore export cable corridor and 400 kV grid connection cable corridor. Relatively low level, temporary infrastructure that has the potential to influence receptors up to 1 km from the Transmission Assets. Beyond 1 km from the Transmission Assets, there is no potential for significant adverse effects to occur. The 1 km buffer is based on the location of the Transmission Assets Order Limits: Onshore and Intertidal, as defined in Volume 1, Chapter 3: Project Description of the ES. This includes the area within which all components of the Transmission Assets landward of Mean Low Water Springs will be located, including areas required on a temporary basis during construction and/or decommissioning (such as construction compounds), within which the onshore export cables, onshore substations and 400 kV grid connection cables will be located.

### 1.2.2 Consultation

1.2.2.1 RPS undertook a desktop exercise during the preparation of the Preliminary Environmental Information Report to identify candidate representative

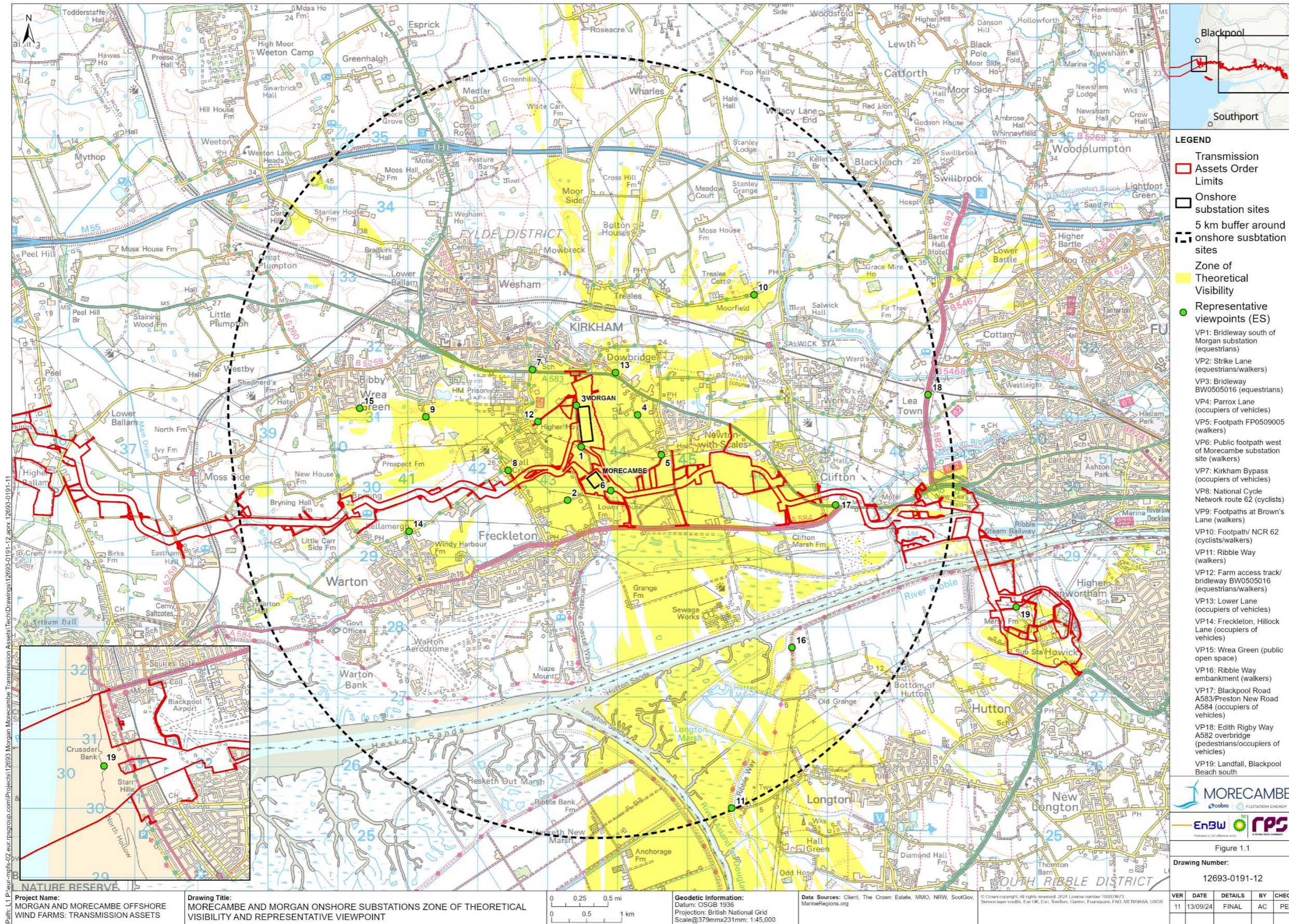
viewpoint locations within the relevant study area at the time to form the basis for engagement with consultees. As part of the ES process, stakeholder engagement resulted in the identification of five additional candidate representative viewpoints by Fylde Council. RPS agreed all representative viewpoints with the relevant consultees during a meeting on 22 February 2024 (refer to Technical Engagement Plan, document reference E1.18). The consultees informed preparation of photomontages for the substations illustrated within Volume 3, Figures of the ES, and a landscape strategy for inclusion within the Outline Landscape Management Plan (document reference J2). Attendees at the meeting of 22 February 2024 included the following:

- Fylde Council;
- South Ribble Council;
- Preston Council;
- Lancashire County Council; and
- Natural England.

1.2.2.2 Nineteen representative viewpoints have been identified and are shown in **Figure 1.1** and listed in **Table 1.2**. These viewpoints have formed the basis of the site survey work and photography; see **Appendix A**. Supplementary photography undertaken within the 1 km radius of the temporary cable corridor is included in **Appendix B**.

1.2.2.3 A summary of key consultation comments raised during consultation activities for the Transmission Assets relevant to landscape and visual resources is recorded in Table 10.7 of Volume 3, Chapter 10: Landscape and visual resources of the ES.





**Figure 1.1: Morecambe and Morgan onshore substations Zone of Theoretical Visibility and representative viewpoints**

### 1.2.3 Baseline methodology

- 1.2.3.1 The fieldwork photography follows the Landscape Institute guidance set out in Technical Guidance Note (TGN) 06/19: Visual Representation of Development Proposals (Landscape Institute, September 2019).
- 1.2.3.2 Nineteen representative Viewpoint locations have been identified for the assessment of the Transmission Assets through engagement with stakeholders (see **section 1.2.2**). The locations generally coincide with public rights of way (PRoW), national cycle routes and public open spaces to ensure the most sensitive visual receptors form the basis for the assessment within the ES, as shown in **Figure 1.1**. The representative viewpoints also include cultural heritage specific viewpoints assessed within Volume 3, Chapter 5: Historic environment of the ES. Representative viewpoint locations are detailed in **Table 1.2**.

## 1.3 Site-specific surveys

### 1.3.1 Summary of surveys undertaken

- 1.3.1.1 A summary of the surveys undertaken to inform the visual baseline is outlined in **Table 1.1**.

**Table 1.1: Summary of surveys undertaken to inform landscape and visual resources assessment**

Title	Extent of survey	Overview of survey	Date
Landscape and Visual Impact Assessment (LVIA) photography and landscape and visual baseline environment	Onshore export cable corridor and onshore substations	Onshore candidate viewpoint photography and survey of landscape and visual baseline environment	12 March 2022 21 March 2023
LVIA photography and landscape and visual baseline environment	Onshore export cable corridor	Onshore cable route context photography and survey of landscape and visual baseline environment	16 May 2022
LVIA photography and landscape and visual baseline environment	Onshore substations	Onshore candidate viewpoint photography and survey of landscape and visual baseline environment	21 June 2023

Title	Extent of survey	Overview of survey	Date
LVIA photography and landscape and visual baseline environment	Landfall, onshore export cable corridor and onshore substations	Onshore candidate viewpoint photography and survey of landscape and visual baseline environment	6 to 9 March 2024

## 1.3.2 Methodology

### Procedure for taking photographs at representative viewpoints

- 1.3.2.1 Photograph locations (taken at representative viewpoints) are shown on **Figure 1.1**, and have been selected to inform the baseline situation for assessment within the ES.
- 1.3.2.2 The photographs were taken in generally favourable weather conditions and clear visibility, where possible. This photography has been used as the baseline for the annotated photographs in **Appendix A**.
- 1.3.2.3 A fixed 50 mm lens on a digital single lens reflex camera was used for the photography in a format equivalent to 35 mm at eye level, approximately 1.75 m above ground level at publicly accessible viewpoints. A full frame sensor was used (as recommended in the Technical Guidance Note 06/19: Visual Representation of Development Proposals (Landscape Institute, September 2019)). The same exposure setting was used for all the frames of each panorama. Representative viewpoint locations were recorded using a hand-held Global Positioning System (GPS).
- 1.3.2.4 Photography was undertaken for a full 360° horizontal field of view for most representative viewpoint locations to ensure the maximum landscape context was captured. The panoramas were photographed with the horizon in the centre using a level tripod that was rotated on the same grid co-ordinate to ensure individual frames were aligned.
- 1.3.2.5 The horizontal field of view for photomontage purposes is 39.6°. However, wide panoramas were photographed to provide broad coverage of the landscape to be assessed and to capture both Transmission Assets onshore substation locations. The panoramas are produced by splicing the photos together with specialist software. A 50% overlap was taken between frames to allow the sides of each photo to be removed when splicing, to minimise distortion.
- 1.3.2.6 The panoramas were generated using Adobe Photoshop imaging software. The digital photographs are put directly into the computer program and each frame combined cylindrically to form a panoramic view. The photography is presented as 180° and 90° panoramas for context, with the approximate locations of the two onshore substations indicated. Photographs are corrected for colour, brightness and/or contrast to ensure that the image quality was optimised. Figures contained in **Appendix A** should be viewed at

a comfortable reading distance printed on A1 paper, or at arms' length printed at A1 width x A3 height.

### 1.3.3 Onshore substations

- 1.3.3.1 Eighteen representative viewpoint locations have been identified for the onshore substations located mainly within landscape character area (LCA) 15d: Coastal Plain - The Fylde.
- 1.3.3.2 Zones of Theoretical Visibility have been generated for the onshore substations and representative viewpoint locations identified (see **Figure 1.1**) High sensitivity receptors within this study area include walkers, equestrians and cyclists using public footpaths, bridleways and cycleways.
- 1.3.3.3 Occupiers of residential properties on the settlement edges of Kirkham and Newton-with-Scales have also been considered as high sensitivity receptors.
- 1.3.3.4 Occupiers of vehicles travelling on the local road network are considered as medium to low sensitivity receptors.

### 1.3.4 Onshore export cable corridor

- 1.3.4.1 Site surveys have been undertaken throughout the onshore export cable route study area between the Landfall and the onshore substations. High sensitivity receptors within this study area include walkers, equestrians and cyclists using public footpaths, bridleways and cycleways. One coastal location forms a representative viewpoint for both the onshore elements of the Transmission Assets and offshore cumulative wind farms assessment. Eleven PRoW have been identified which cross the onshore export cable corridor and would place visual receptors in closest proximity to the temporary construction activities where significant effects on visual amenity are more likely for high sensitivity receptors (see viewpoint locations in **Appendix B**).
- 1.3.4.2 Photography has been undertaken at key locations on PRoW and cycle routes to inform the temporary effects on high sensitivity visual receptors during the construction phase of the onshore export cable corridor. Photography is included in **Appendix C** for context and to inform the LVIA within Volume 3, Chapter 10: Landscape and visual resources of the ES.
- 1.3.4.3 The Lancashire Coastal Way/National Cycle Route 62 and one other public footpath lie within LCA 19a: Coastal Dunes - Fylde Coast Dunes. The routes cross coastal grassland between Blackpool and Lytham St Anne's where receptors gain views inland over the open expanse of grasslands at Blackpool Airport, within an urban fringe context.
- 1.3.4.4 Six bridleways lie within LCA16b: Mosslands - South Fylde Mosses. The routes are often associated with lanes and farm tracks crossing flat open farmland north of Lytham St Anne's where receptors are able to gain open, expansive views across a rural landscape with a backdrop of urban edge.
- 1.3.4.5 Three PRoW lie within LCA 15d: Coastal Plain - The Fylde. The routes follow field margins within a landscape of mixed arable and pasture land divided by

low managed hedgerows. Views are relatively open, punctuated by scattered trees and farmsteads and the urban edges of Worton and Hall Cross.

- 1.3.4.6 Residential properties within or in close proximity to the onshore export cable corridor, particularly those near to a construction compound, are also identified in **Appendix B** and form the baseline for the visual impact assessment and the consideration of the potential for significant effects on occupiers.

## 1.3.5 Onshore 400 kV grid connection cable corridor

- 1.3.5.1 Fourteen PRow have been identified which cross or lie adjacent to the 400kV grid connection cable corridor and would place visual receptors in closest proximity to the temporary construction activities (see **Appendix B**).
- 1.3.5.2 The River Ribble Way footpath and three other PRow lie within LCA 17a: Enclosed Coastal Marsh – Clifton and Hutton Marsh. The routes lie on elevated flood defences or within low lying farmland. Receptors gain expansive views across a rural landscape with a backdrop of urban edge in the context of infrastructure at Penwortham substation.
- 1.3.5.3 Four PRow lie within LCA 15b: Coastal Plain – Longton Bretherton. The routes lie within urban fringe farmland of mixed pasture with hedgerows and hedgerow trees. Fragmented and filtered views are gained by walkers within the immediate context of large scale electrical infrastructure at Penwortham substation.
- 1.3.5.4 Five footpaths and one bridleway lie within LCA 15d: Coastal Plain – The Fylde. The routes cross farmland and connect settlements on the low ridge of countryside above the River Ribble corridor. Hedgerows and trees restrict some views, whilst other views are open and panoramic in more elevated locations.
- 1.3.5.5 Residential properties within or in close proximity to the onshore export cable corridor, particularly those near to a construction compound, are also identified in **Appendix B** and form the baseline for the visual impact assessment and the consideration of the potential for significant effects on occupiers.

## 1.4 Representative viewpoints

### 1.4.1 Representative viewpoint photography

- 1.4.1.1 The photography undertaken during site surveys is presented as a series of panoramas in **Appendix A** with a viewpoint location plan extract.

### 1.4.2 Representative viewpoint descriptions

- 1.4.2.1 **Table 1.2** provides details of the representative viewpoint locations and status, the visual receptor type and the nature and character of the view. All representative viewpoint photography has been undertaken in winter, to demonstrate maximum visibility when deciduous vegetation is not in leaf. Summer photography has also been undertaken for viewpoints.

**Table 1.2: Onshore substations and landfall representative viewpoints**

Representative viewpoint reference and location	Receptor group(s)	Representative viewpoint description
<p><b>Representative viewpoint VP1:</b> Bridleway south of Morgan substation site</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 50 m</p>	<p>Equestrians Walkers</p>	<p>This is a near, channelled view from the south boundary of the Morgan substation site looking north east through a field gate opening and along the bridleway.</p> <p>Hedgerows frame the view into a farmed landscape beyond. Pasture fields with hedgerows and trees rise up a shallow ridge to an open skyline.</p> <p>The area is influenced by the nearby urban fringe and the frequent masts, pylons and other vertical elements visible on the horizon.</p>
<p><b>Representative viewpoint VP2:</b> Strike Lane, west of Morecambe substation site</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 400 m</p>	<p>Equestrians Walkers</p>	<p>This is a mid-distance view through a field gate opening looking north. Hedgerows frame the view into a farmed landscape beyond. Pasture fields with mature hedgerows and belts of trees extend across a relatively flat landscape. Pylons are visible in the fields beyond. The Morgan substation site is obscured by intervening vegetation.</p> <p>Also includes a mid-distance, channelled view looking north east along the bridleway which is bounded by tall mature hedgerow vegetation with occasional hedgerow trees. The tops of pylons are visible in the fields beyond. The Morecambe substation site is obscured by intervening vegetation.</p>
<p><b>Representative viewpoint VP3:</b> View from bridleway BW0505016</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 30 m</p>	<p>Equestrians Walkers</p>	<p>This is a near, channelled view from the northern edge of the Morgan substation site looking south along the bridleway, which is bounded by low, tightly clipped hedgerows with occasional hedgerow trees. A gap in the hedgerow to the south east allows a glimpsed view through to open pasture farmland. Hedgerows and scattered trees filter and frame views of the horizon. A row of pylons crossing the landscape are visible against the sky. Land within the Morecambe substation site is obscured by intervening vegetation.</p>
<p><b>Representative viewpoint VP4:</b> Parrox Lane east of Morgan substation site.</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 700 m</p>	<p>Walkers Road users</p>	<p>This is a mid-distance, partially open view through a field gate looking south west. Pasture fields surrounded by gappy hedgerows and scattered trees extends over a gently undulating landform. The tops of pylons crossing the landscape are visible on the skyline. The Morgan substation site and Morecambe substation site are partially visible through gaps in vegetation.</p> <p>A channelled view north along Parrox Lane forms the right side of the view. The landform rises gently</p>

Representative viewpoint reference and location	Receptor group(s)	Representative viewpoint description
		to the north. Pasture fields divided by gappy hedgerows and clumps of trees extend towards the horizon. the vertical form of a communications mast is visible against the skyline. Glimpses of outbuildings and pylons are also visible.
<p><b>Representative viewpoint VP5:</b> View north west from footpath FP0509005</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 1 km</p>	Walkers	This is an open view looking north west across a low managed hedgerow on the edge of the settlement of Newton-with-Scales. Timber post and rail fences around horse paddocks with stables and loose boxes define the foreground view. A grassy ridge and bushy hedgerows with trees define the skyline. Residential properties lie on the right side of the view and pylons crossing the landscape are visible on the left side of the view. The landscape has an urban fringe character. Land within the Morgan substation site and the Morecambe substation site is screened from view by vegetation or landform.
<p><b>Representative viewpoint VP6:</b> View from footpath north of A584</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 160 m</p>	Walkers	This is a near, open view looking north west from a footpath crossing a pasture field south of the Morecambe substation site. An open field boundary and wet ditch crosses the foreground with rising land beyond within the substation site. Hedgerows and scattered trees define some field boundaries and punctuate the skyline to the left and right of the view. Overhead power lines and pylon towers cross the landscape on the left side of the view. Glimpses of development on the edge of Kirkham is visible through vegetation. Land within the Morgan substation site is screened from view by landform and vegetation.
<p><b>Representative viewpoint VP7:</b> Kirkham Bypass north of Freckleton Road</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 800 m</p>	Cyclists Road users Pedestrians	This is a mid-distance open view looking south from a roadside pavement at the junction of Freckleton Road and Kirkham Bypass on the settlement edge of Kirkham. Signage, lighting, traffic lights, railings and timber post and rail fence of the road corridor define the foreground of the view. The landform slopes down gently from this high point revealing glimpses of pasture fields, hedgerows and scattered mature trees within a contrasting rural landscape. Buildings and security fences at Kirkham Trading Estate lie on the right side of the view. Agricultural buildings at Greenbank Farm, north west of the Morgan substation site, are partially visible within trees in the centre of the view. Moorland uplands are visible in the distance. Land within the Morgan substation site and Morecambe substation site is screened from view by vegetation.
<p><b>Representative viewpoint VP8:</b> Kirkham Road, National Cycle Network route 62</p>	Cyclists Road users	This is a partially screened mid-distance view looking east from a pavement on Kirkham Road, which forms part of National Cycle Network route 62. Residential properties at Hall Cross lie

Representative viewpoint reference and location	Receptor group(s)	Representative viewpoint description
<p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 1.1 km</p>		<p>immediately behind the viewer. A low managed hedgerow defines the field boundary in the foreground. A gap in the hedgerow allows views into the neighbouring pasture field. Hedgerows and scattered trees form field boundaries and extend into the distance. Residential properties and agricultural buildings at Hall Cross are partially visible in trees in the mid-distance. Pylons and overhead power lines are prominent crossing the landscape. Moorland uplands are distantly visible on the horizon. Land within the Morgan substation site and Morecambe substation site is screened from view by vegetation.</p>
<p><b>Representative viewpoint VP9:</b> Brown's Lane public footpaths FP0510007 and FP0510008</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 2.2 km</p>	<p>Walkers Road users</p>	<p>This is a partially screened mid-distance view looking east over a low managed hedgerow beside Brown's Lane, from a slightly elevated location. The pasture fields slope down into the distance. Unmanaged hedgerows and scattered trees break up the view into the distance. Agricultural buildings and properties at Hall Cross are partially visible in vegetation in the mid-distance. The tops of pylons are visible crossing the landscape. Glimpses of moorland uplands are visible in the far distance. Land within the Morgan substation site and the Morecambe substation site is screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP10:</b> Footpath FP0513016 and National Cycle Network route 62 (Treales Road)</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 2.8 km</p>	<p>Walkers Cyclists Road users</p>	<p>This is an open view looking south west from a footpath connecting to Treales Road. Grazed sheep fields extend across the whole of this rural view. Dense mature woodland at Molly's Plantation frames the left side of the view. The lack of trees within low managed hedgerows in the centre of the view allow the view to extend into the distance between the settlements of Kirkham and Newton-with-Scales. The tops of pylons are visible crossing the landscape. Land within the Morgan substation site and the Morecambe substation site is screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP11:</b> Ribble Way</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 5 km</p>	<p>Walkers</p>	<p>This is a panoramic, distant view looking north across the River Ribble estuary from the raised bank of the Ribble Way. The flat open expanse of Longton Marsh and Hutton Marsh form an exposed coastal landscape within the foreground and mid-distance. The view extends to rising land on the far side of the river. Farmland, settlements at Freckleton, Kirkham and Newton with Scales and scattered commercial and industrial infrastructure forms a distant backdrop to the view. Overhead power lines connecting the vertical forms of pylon towers extend across the open view. Land within the Morgan substation site and the Morecambe substation site is largely screened from view by vegetation and landform.</p>



Representative viewpoint reference and location	Receptor group(s)	Representative viewpoint description
<p><b>Representative viewpoint VP12:</b> Farm access track/bridleway BW0505016</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 600 m</p>	<p>Equestrians/walkers</p>	<p>This is a mid-distance, open view looking east across farmland from a bridleway on the edge of Kirkham. Low hedgerows and widely spaced trees either side of the lane allow views across the pasture fields in the foreground. Buildings at Greenbank Farm and Freshfield Farm are partially visible on the bridleway. Vegetation along the bridleway immediately west of the Morgan substation site is visible on the horizon. Overhead power lines and pylon towers are also visible against the skyline. Land within the Morgan substation site and the Morecambe substation site is largely screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP13:</b> Blackpool Road B5192</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 600 m</p>	<p>Pedestrians/occupiers of vehicles</p>	<p>This is a mid-distance, open view looking south west across gently undulating farmland from a bus stop on slightly elevated land. The road junction forms the foreground to the view. Hedgerows partially screen the view beyond. The low ridge of pasture land at the Morgan substation site is visible beyond trees, lighting columns and road signage. Buildings at Greenbank Farm and Freshfield Farm are partially visible in the centre of the view with the residential edge of Kirkham visible on the right of the view. Overhead power lines and pylon towers are also visible against the skyline. Land within the Morecambe substation site is screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP14:</b> Freckleton, Hillock Lane</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 2.7 km</p>	<p>Occupiers of vehicles</p>	<p>This is a narrow, framed view through a field gate opening looking north-east across relatively open farmland. Roadside hedgerows screen the majority of views towards the Project. Pasture land occupies the foreground and middle distance. The undulating, rural landscape is crossed by hedgerows and trees belts. Overhead power lines and pylon towers are also visible against the skyline. Farm buildings and glimpses of built form within settlements are visible in the distance. Land within the Morgan substation site and the Morecambe substation site is not discernible within the view.</p>
<p><b>Representative viewpoint VP15:</b> Wrea Green</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 3.1 km</p>	<p>Public open space</p>	<p>This is a narrow, distant, framed view through a gap in a hedgerow looking south east across relatively open farmland from a slightly elevated location on the settlement edge. Mixed arable and pasture fields partially defined by hedgerows occupies the middle distance. Overhead power lines and pylon towers are visible against the skyline in the vicinity of the substation sites. Glimpses of built form within settlements are visible in the distance. Land within the Morgan substation site and the Morecambe substation site is not discernible within the view.</p>

Representative viewpoint reference and location	Receptor group(s)	Representative viewpoint description
<p><b>Representative viewpoint VP16:</b> Ribble Way embankment</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 3.6 km</p>	Walkers	<p>This is a panoramic, distant view looking north west across the River Ribble estuary from the raised bank of the Ribble Way. The fringes of the open expanse of Hutton Marsh forms an exposed and relatively featureless foreground and mid-distance. The view extends to rising land on the far side of the river. Farmland, settlements at Freckleton, Kirkham and Newton with Scales and scattered commercial and industrial infrastructure beside the river forms a backdrop to the view. Overhead power lines connecting the vertical forms of pylon towers extend across the horizon. Land within the Morgan substation site and the Morecambe substation site is largely screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP17:</b> Blackpool Road A583/Preston New Road A584</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 3.3 km</p>	Occupiers of vehicles	<p>This is a narrow, framed distant view looking north-west along a busy road corridor. Clipped hedgerows and clumps of trees constrain the view and prevent views over the surrounding farmland. Land within the Morgan substation site and the Morecambe substation site is screened from view by vegetation and landform.</p>
<p><b>Representative viewpoint VP18:</b> Edith Rigby Way A582 overbridge</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 4.8 km</p>	Pedestrians/ occupiers of vehicles	<p>This is a distant, open view looking west from an elevated overbridge above the Lancaster Canal. The highway corridor and safety barriers cut across the view in the foreground. Woodland belts and the tops of tall industrial buildings at the Westinghouse site are visible in the centre of the view. Views extend along the road corridor and across the wide expanse of the low lying rural landscape of the River Ribble valley. Overhead power lines and pylon towers are visible against the skyline. Land within the Morgan substation site and the Morecambe substation site is screened from view by intervening vegetation.</p>
<p><b>Representative viewpoint VP19:</b> Landfall, Blackpool Beach south</p> <p>Shown in <b>Appendix A</b></p> <p>Distance to nearest substation compound approximately 600 m</p>	Visitors walking along the beach	<p>This is a distant panoramic view looking west out to sea across the exposed sandy beaches between the coastal settlements of Blackpool and Lytham St Annes. The coast has a relatively wild character in this location due to the lack of development, infrastructure, or landscape planting. Existing infrastructure out to sea is not apparent in views.</p> <p>A ridge of steep, marram grass covered sand dunes form a barrier to the inland plain to the east. The viewpoint location is in close proximity to the landfall site. This is a relatively wild and undeveloped view.</p>

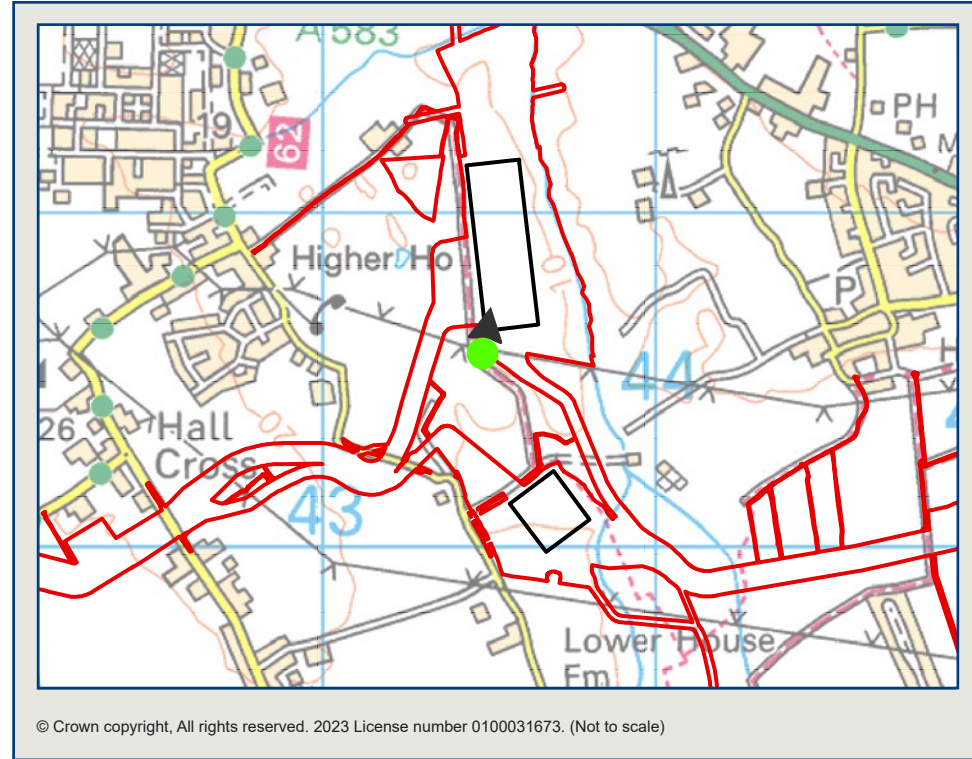
## 1.5 Summary

1.5.1.1 Following an initial desk analysis exercise followed by a series of site surveys, nineteen representative viewpoint locations have been identified, which have been agreed with the relevant consultees during the consultation process. This has enabled a broad range of typical sensitive visual receptors within the study area to be identified and assessed in Volume 3, Chapter 10: Landscape and visual resources of the ES. Site surveys have been undertaken and photography captured at these representative viewpoint locations associated with the two onshore substation locations and the Landfall. Further photography has been captured at locations within the onshore export cable corridor study area for context purposes.

## 1.6 References

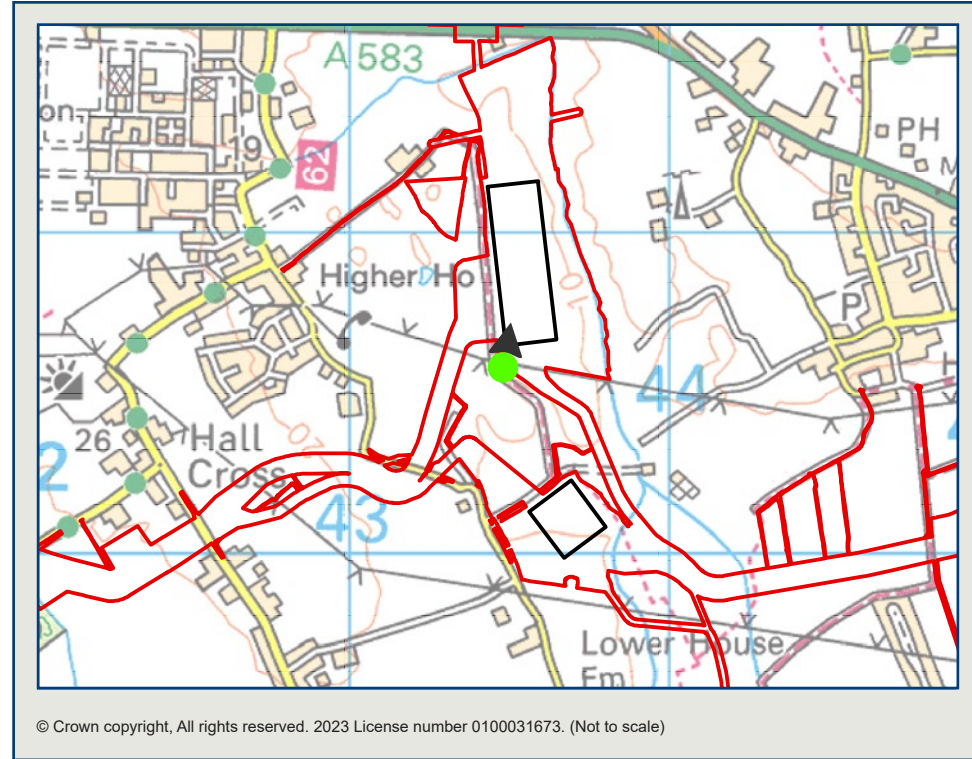
Landscape Institute (2019) Technical Guidance Note (TGN) 06/19: Visual Representation of Development Proposals.

## Appendix A: Representative viewpoint photography for substations and landfall



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP1: Bridleway south of Morgan substation site (summer)

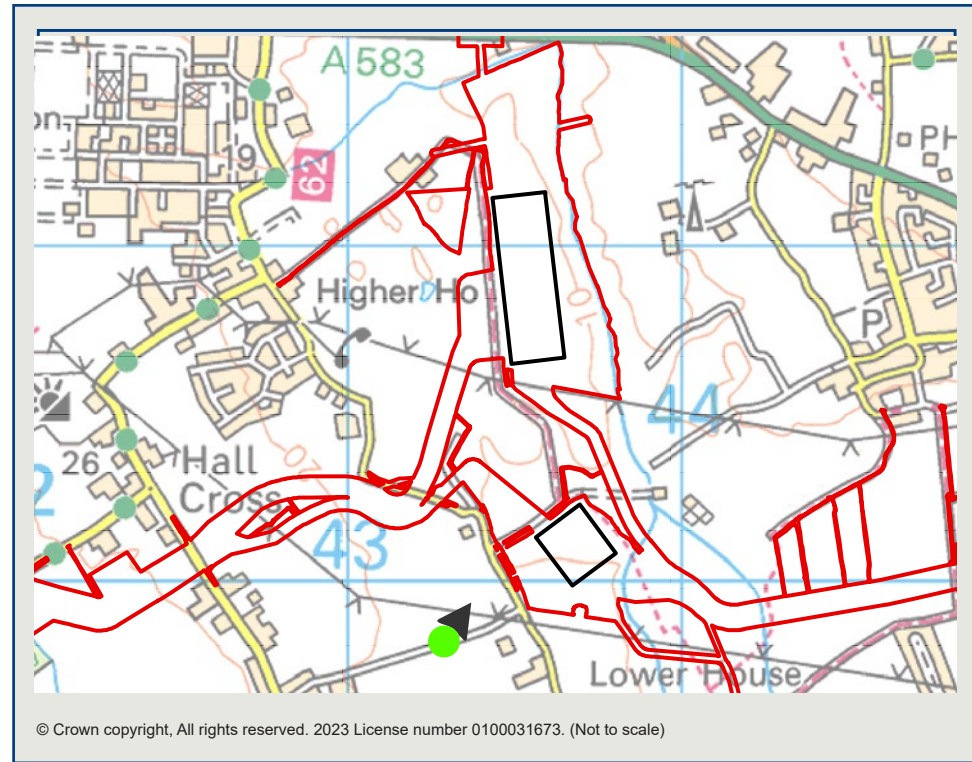
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

Appendix A



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP2: Strike Lane (winter)

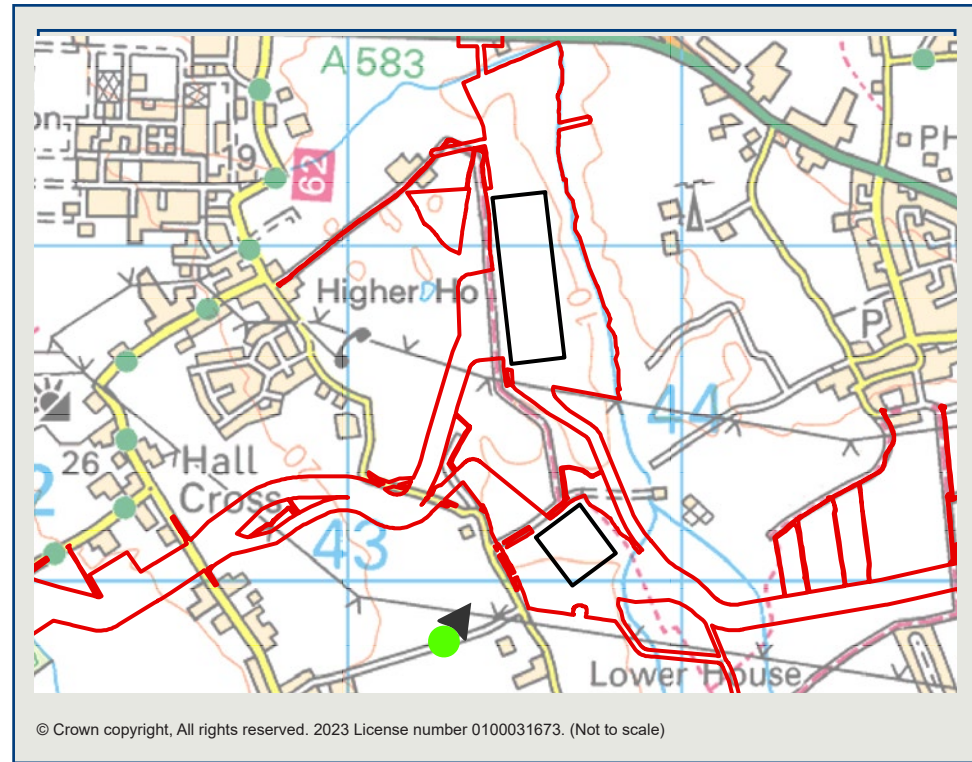
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

Appendix A



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP2: Strike Lane (summer)

180° angle of view

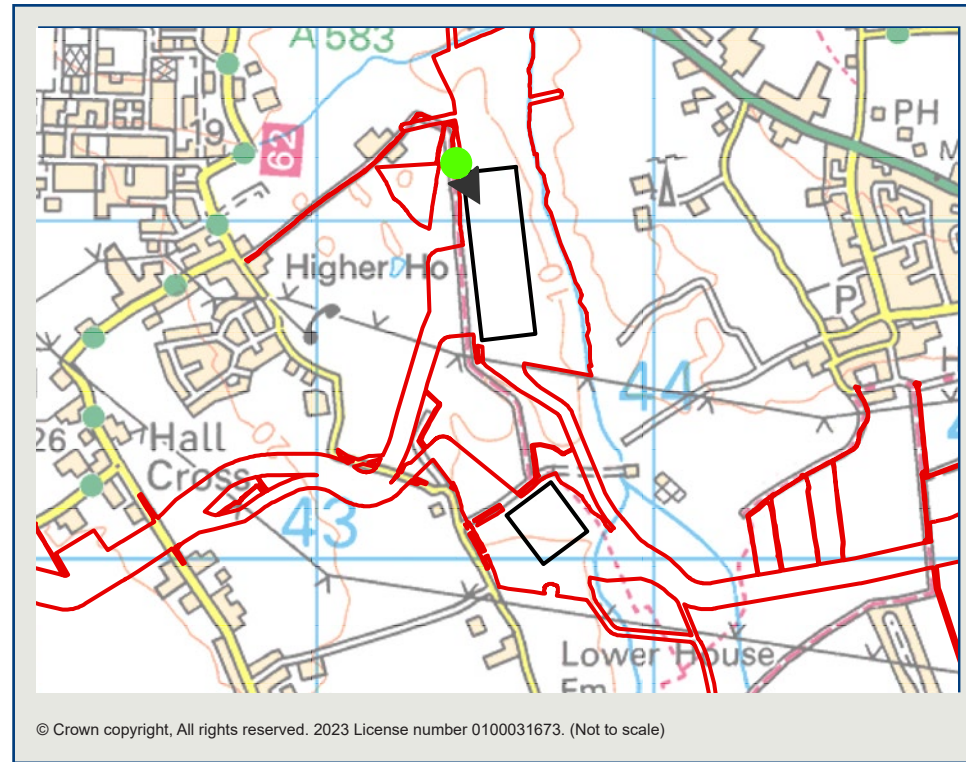
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

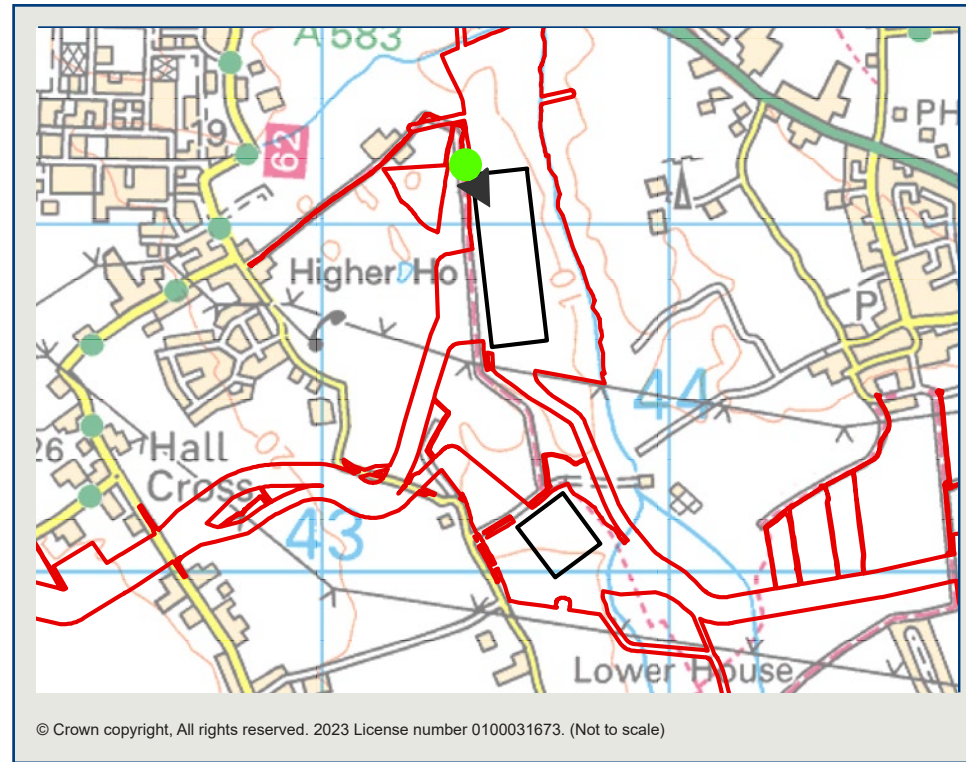
Appendix A





Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



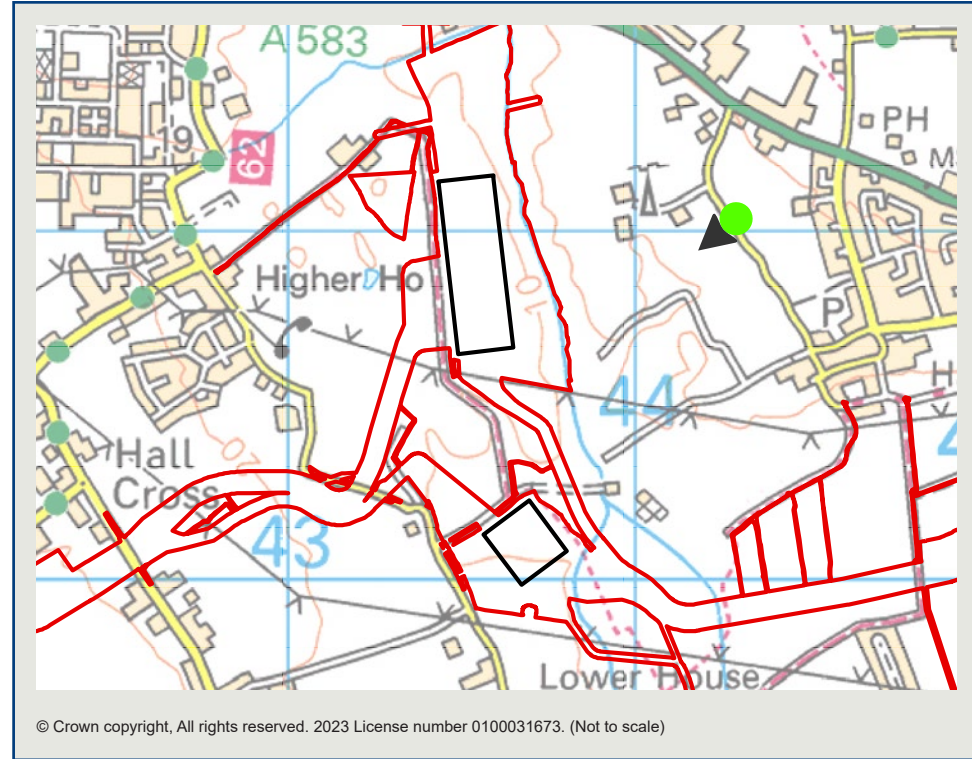
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12893-0157-06



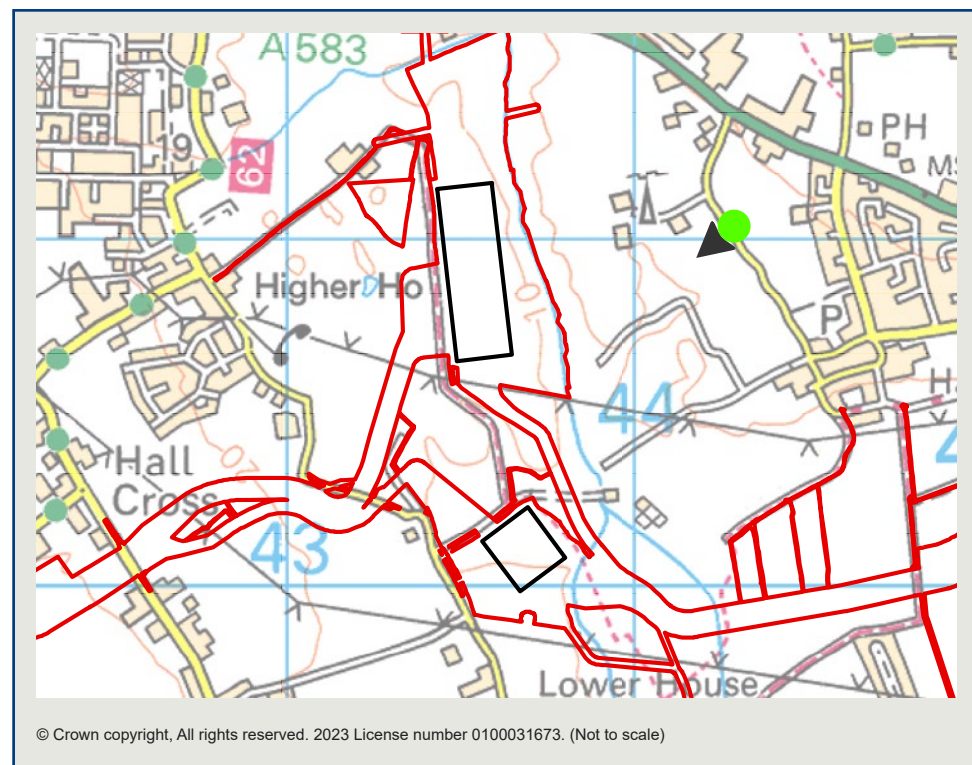
Morecambe onshore substation site

Morgan onshore substation site



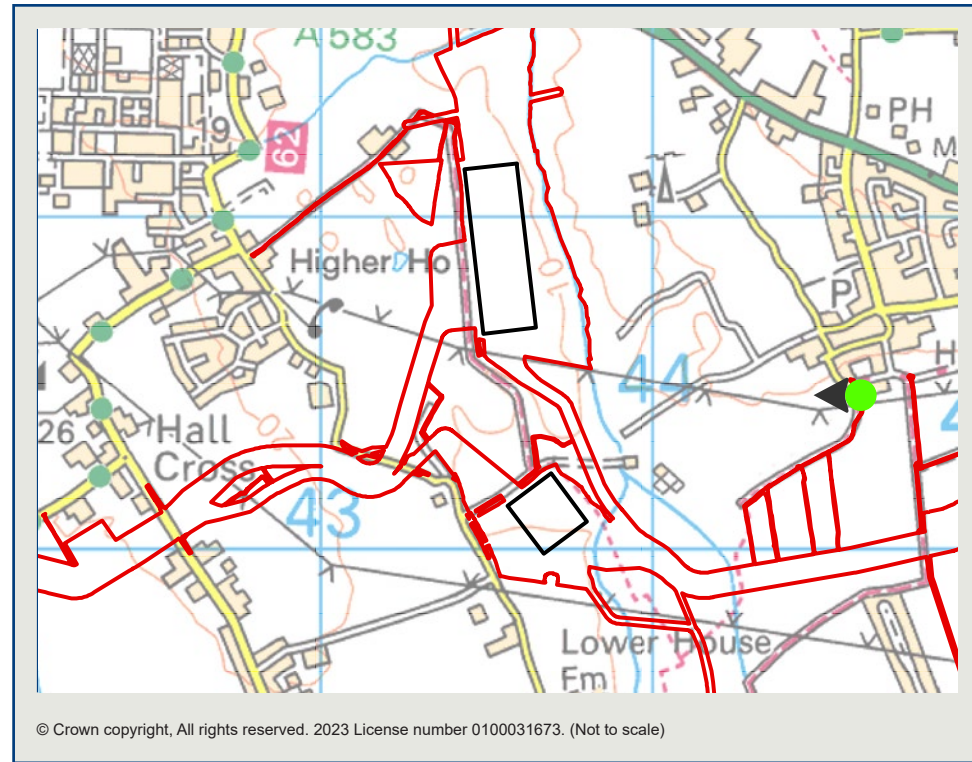
Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

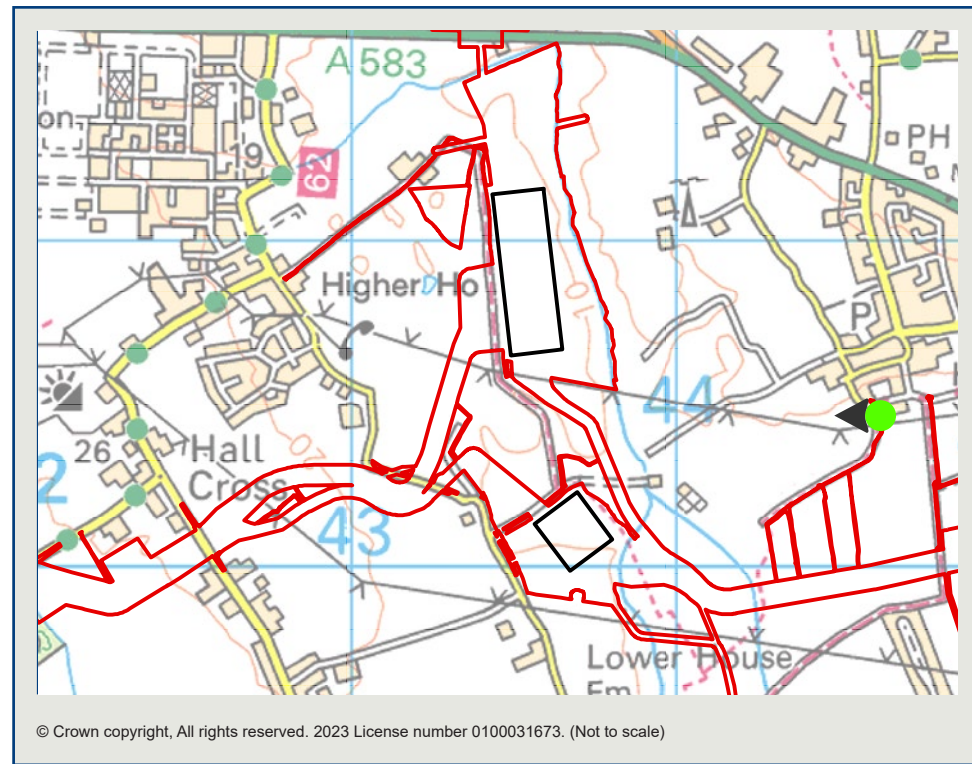
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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

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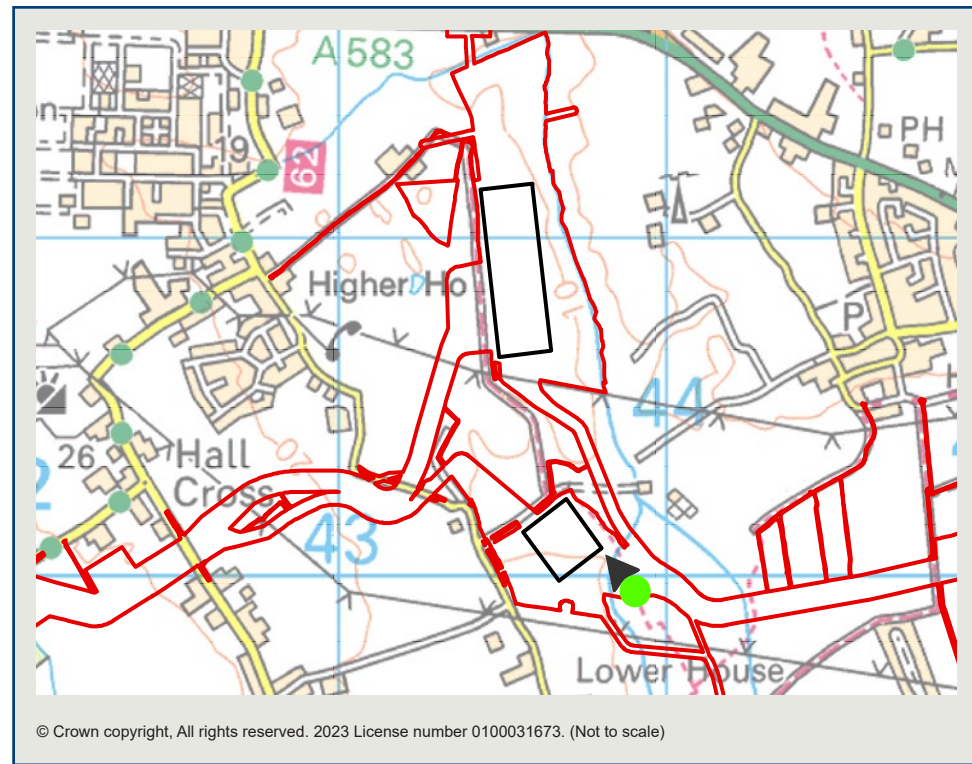
Morecambe onshore substation site



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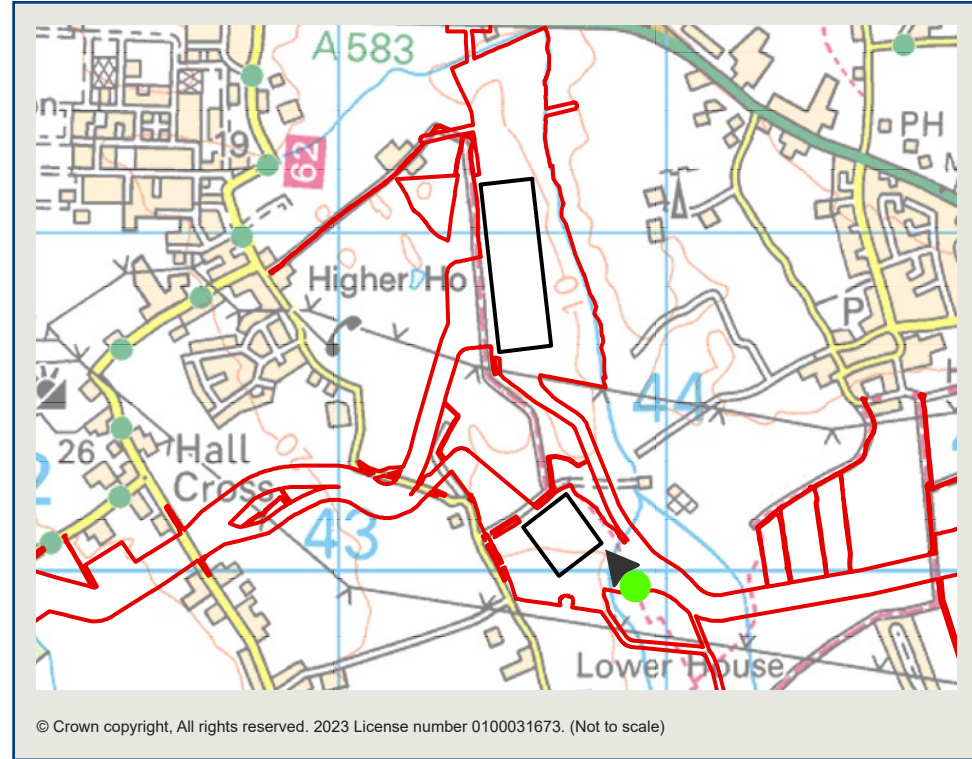
Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP6: View from footpath north of A584 (summer)

180° angle of view

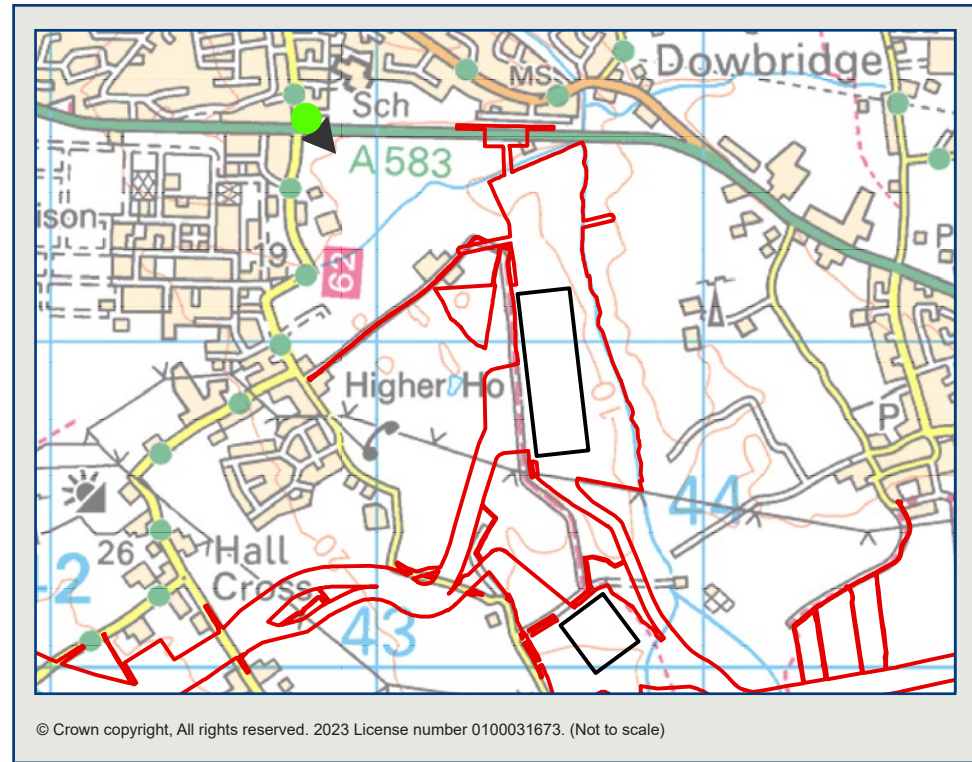
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

Appendix A





Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP7: Kirkham Bypass north of Freckleton Road (winter)

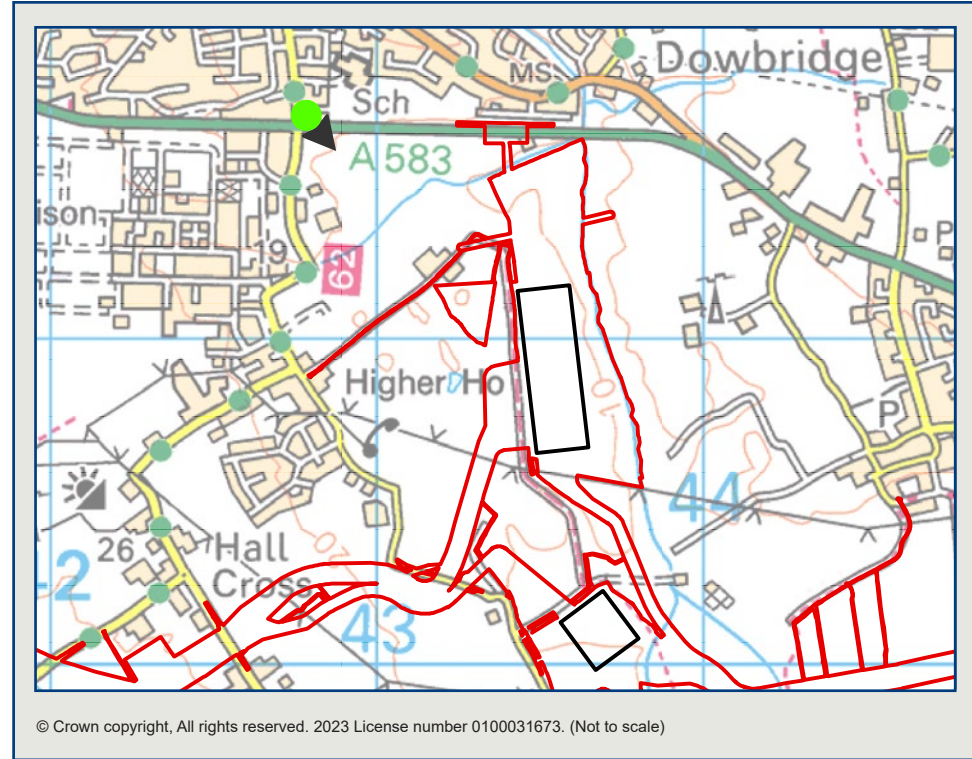
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

Appendix A



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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP7: Kirkham Bypass north of Freckleton Road (summer)

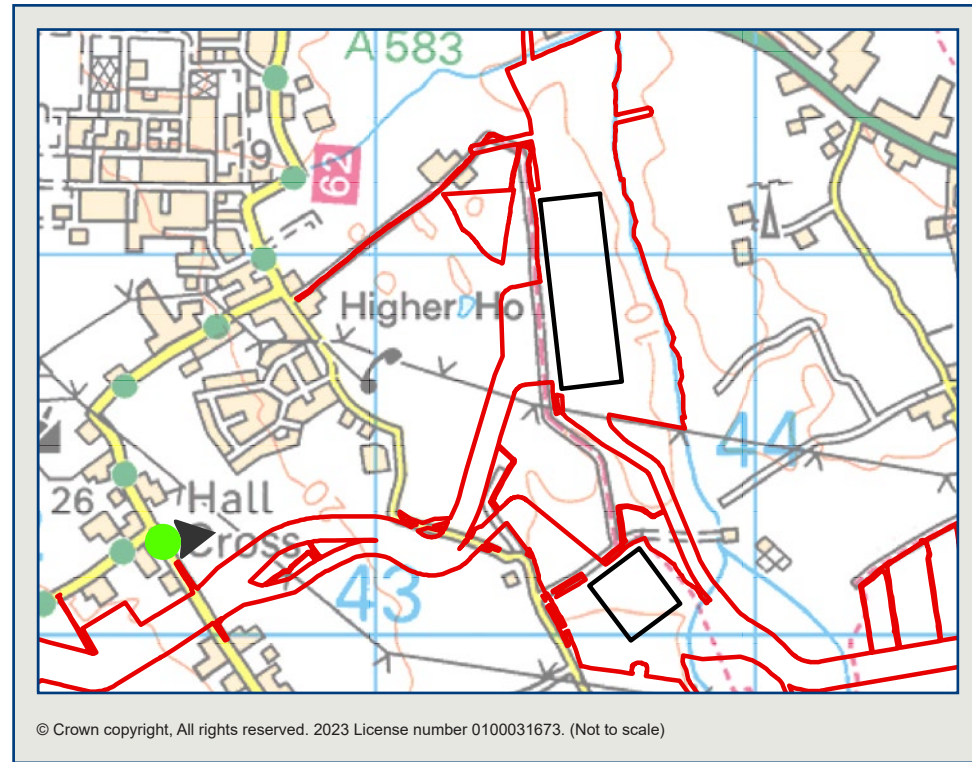
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

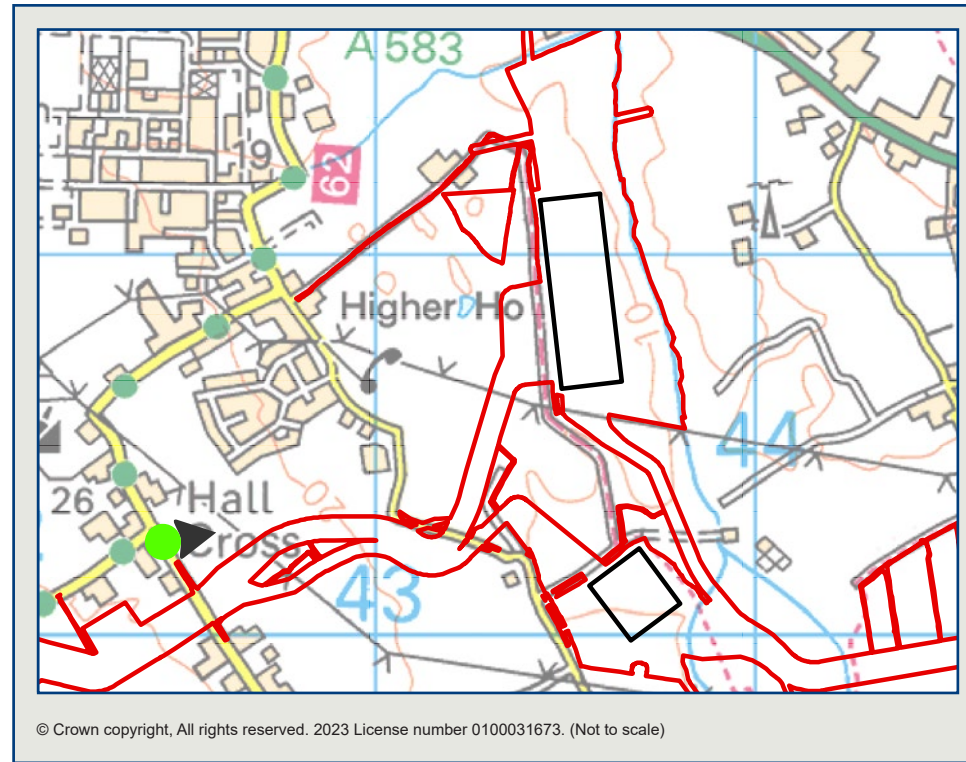
To be viewed at comfortable arms length

Appendix A



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP8: Kirkham Road, National Cycle Network route 62 (summer)

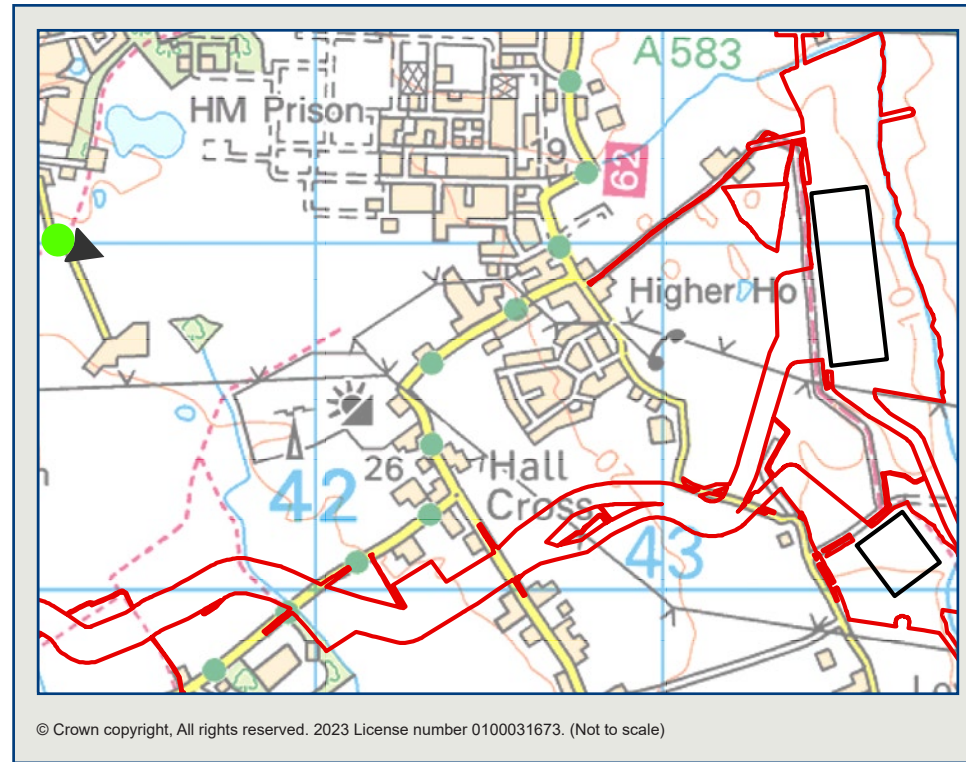
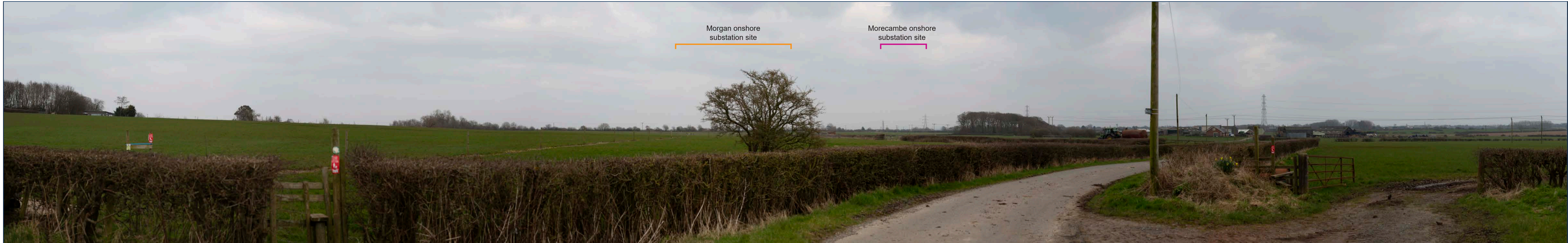
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

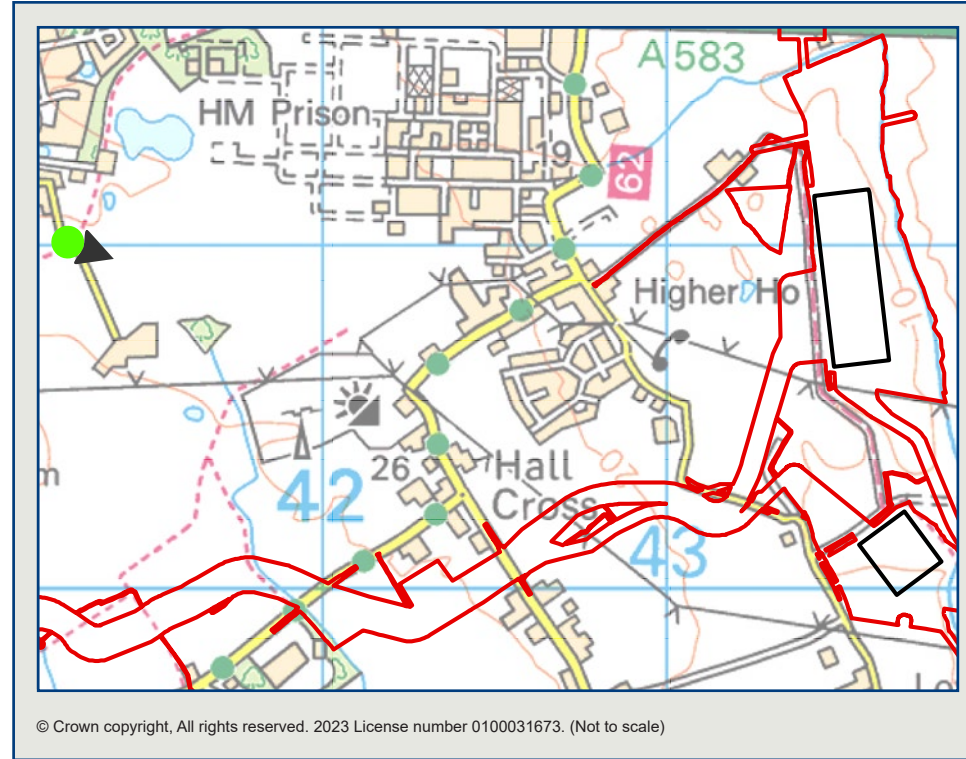
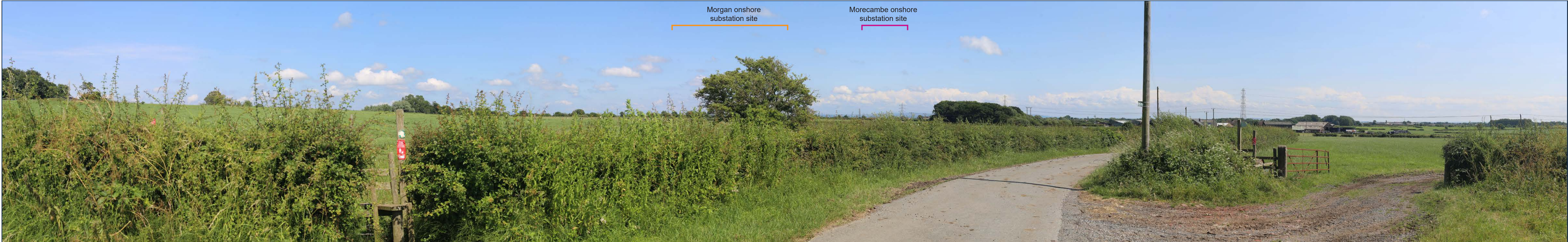
To be viewed at comfortable arms length

Appendix A

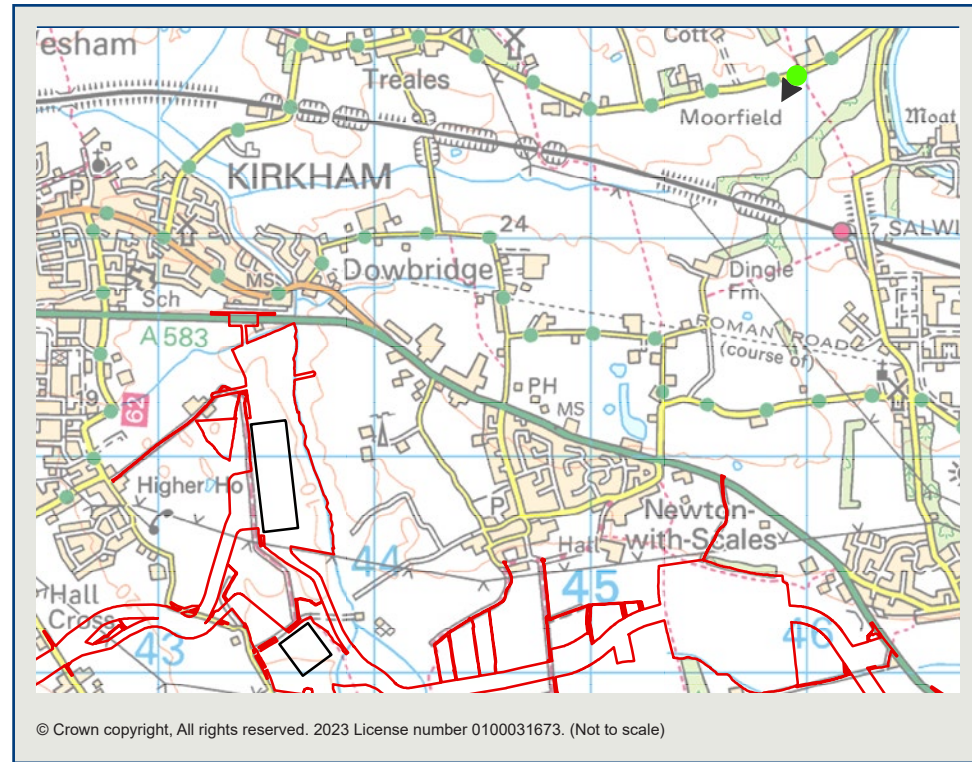
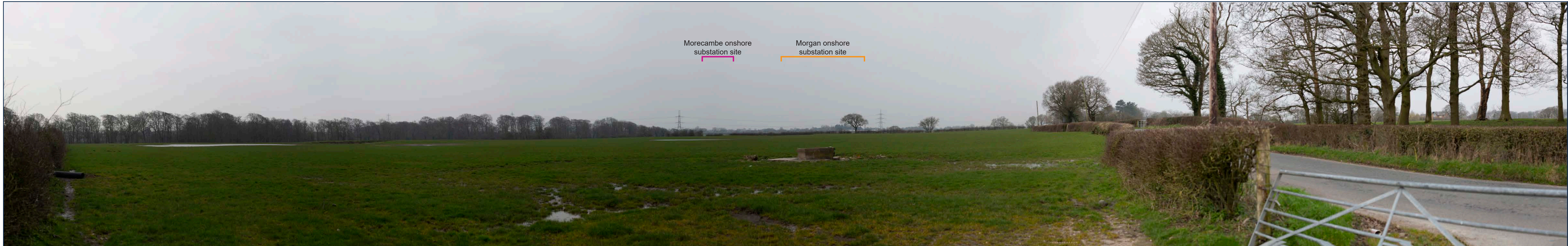


Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

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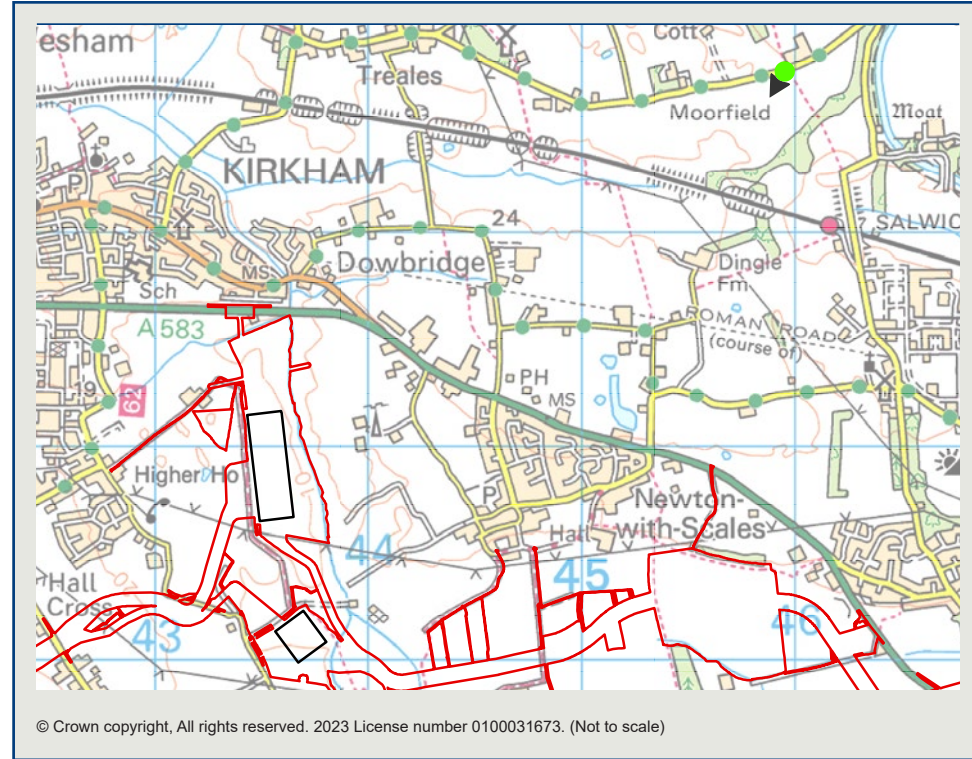


Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP10: Footpath FP0513016 and National Cycle Network route 62 (summer)

180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

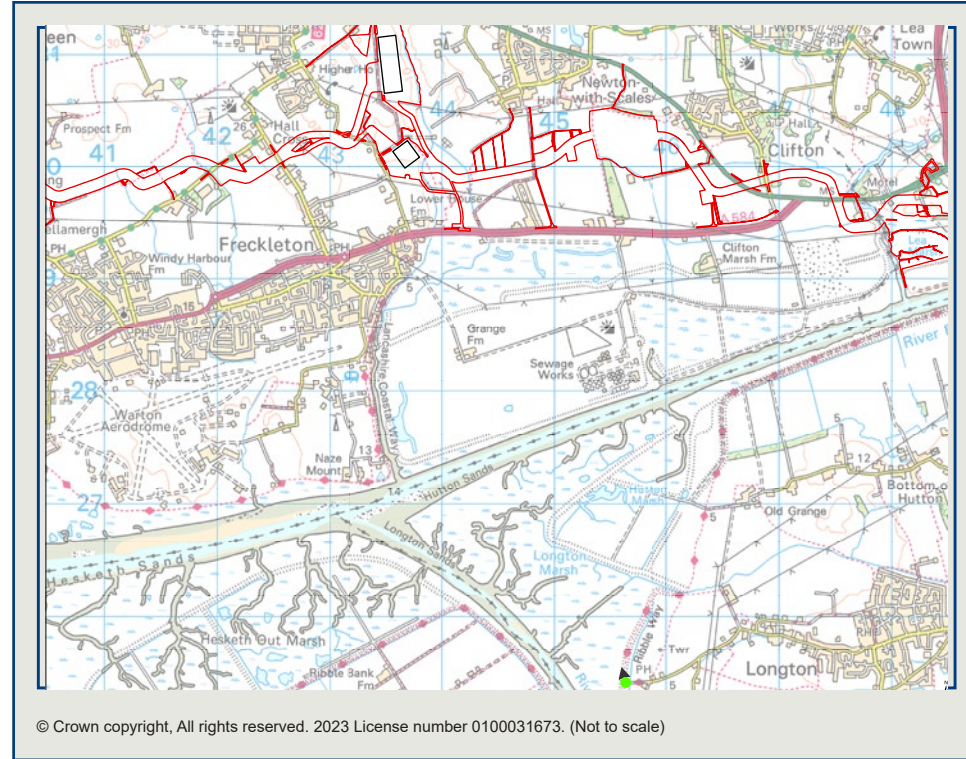
To be viewed at comfortable arms length

Appendix A



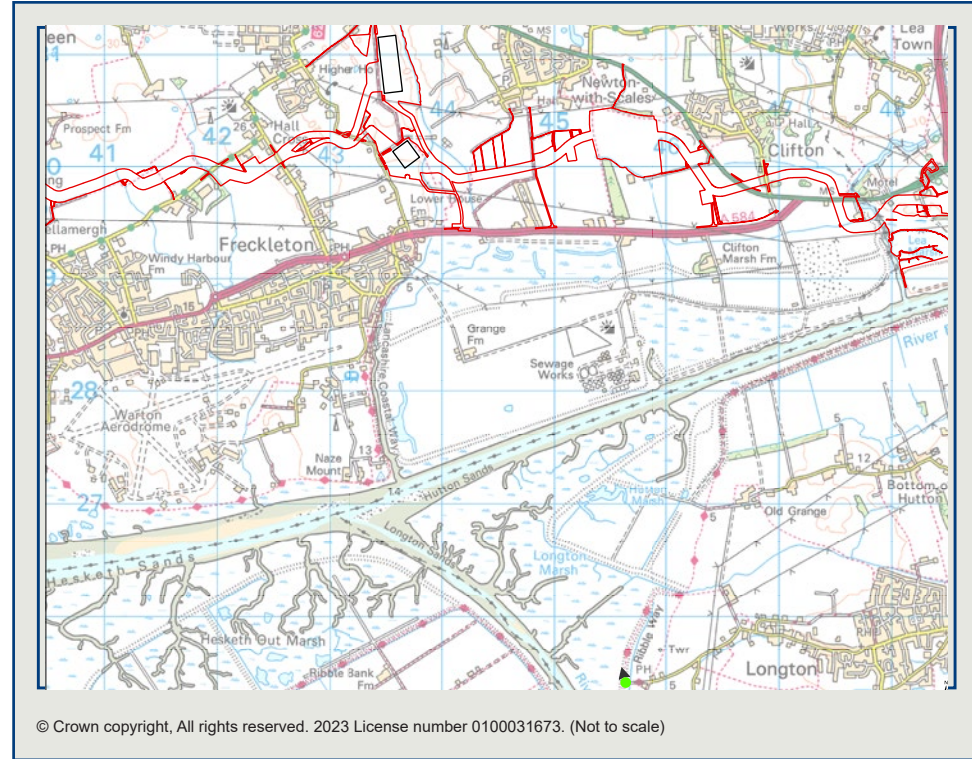


Morgan onshore substation site  
 Morecambe onshore substation site



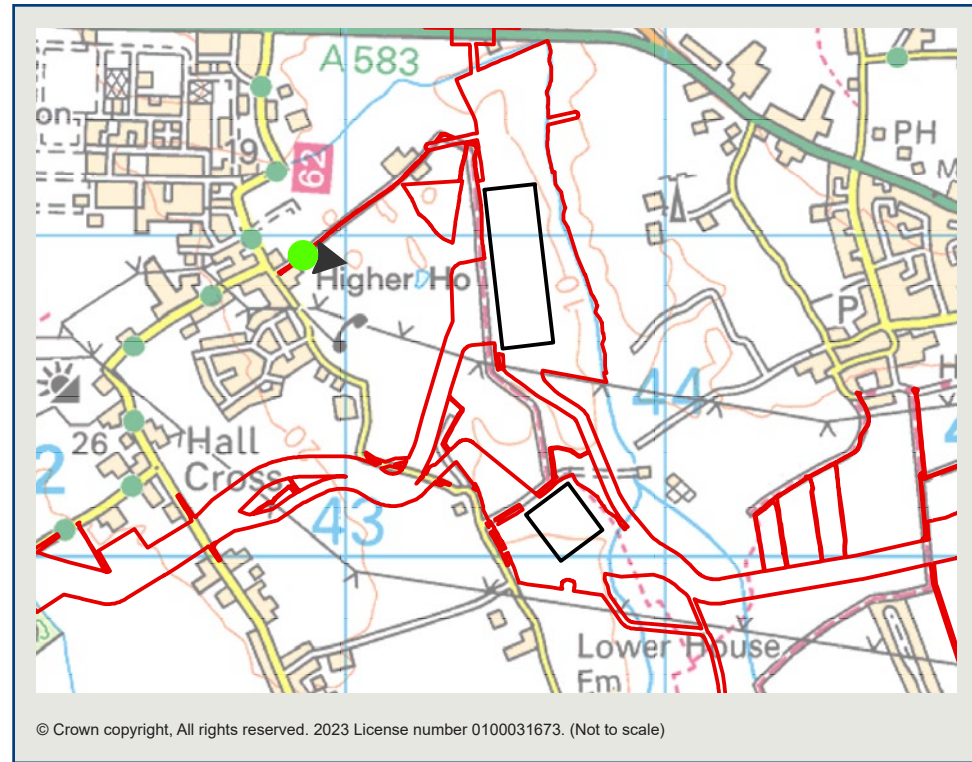
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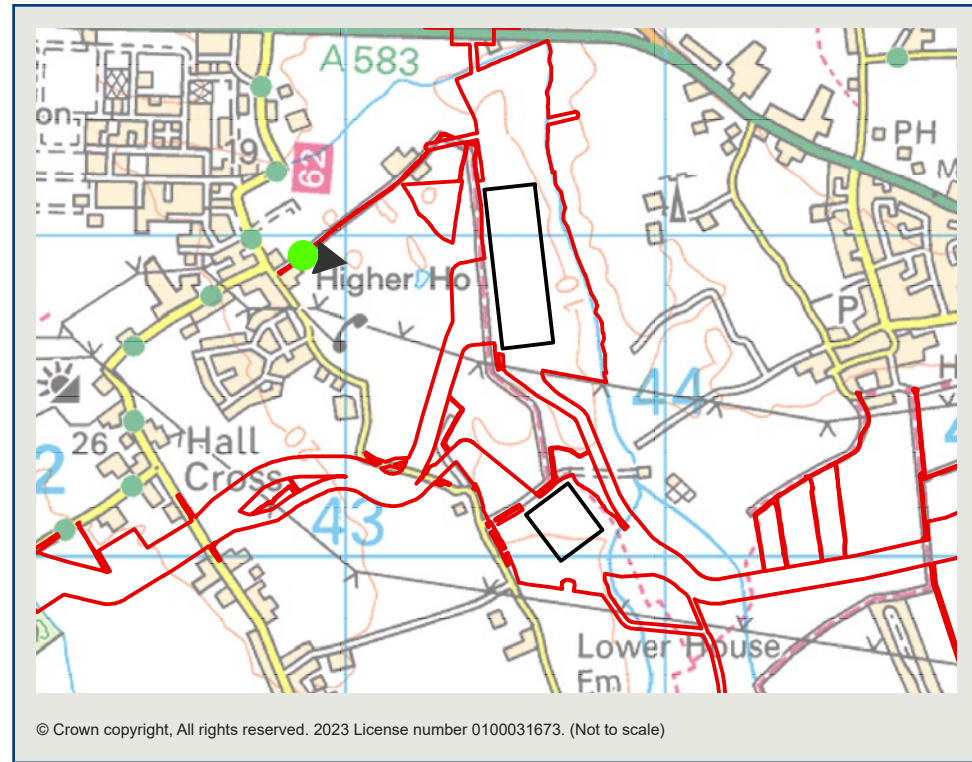
Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

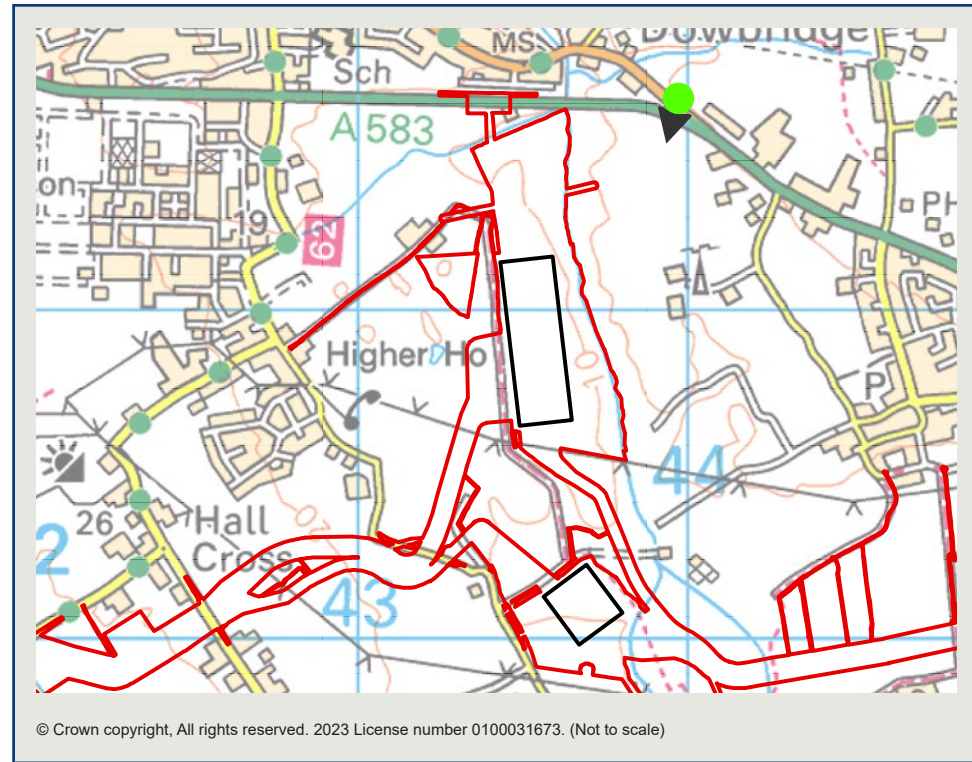
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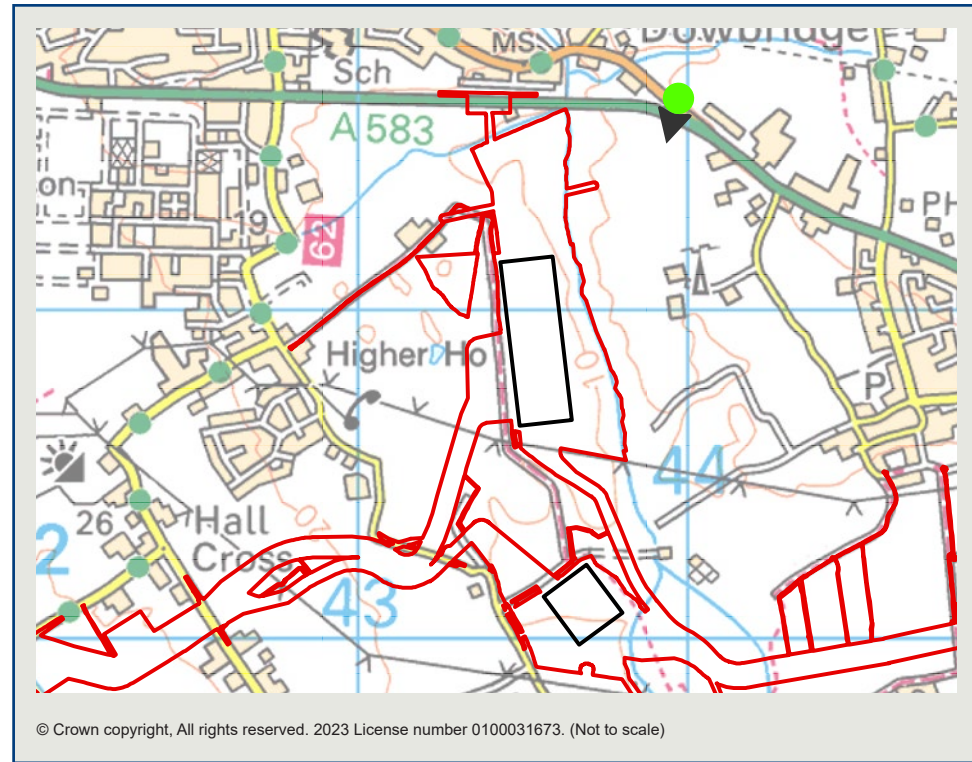
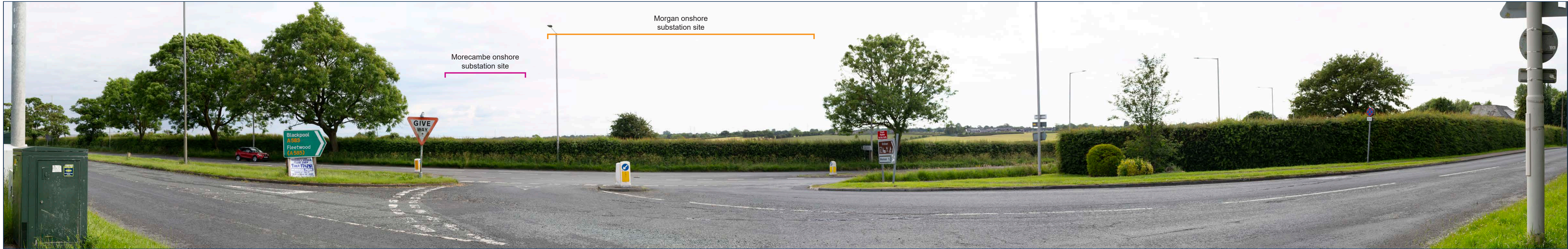
Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP13: Blackpool Road B5192 (summer)

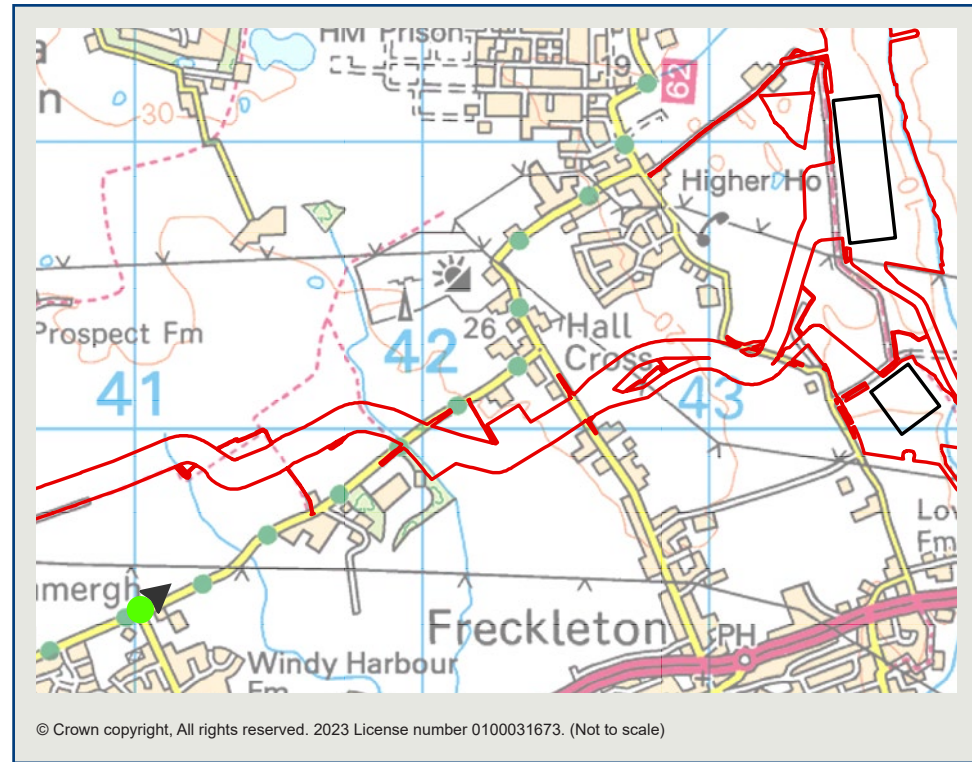
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

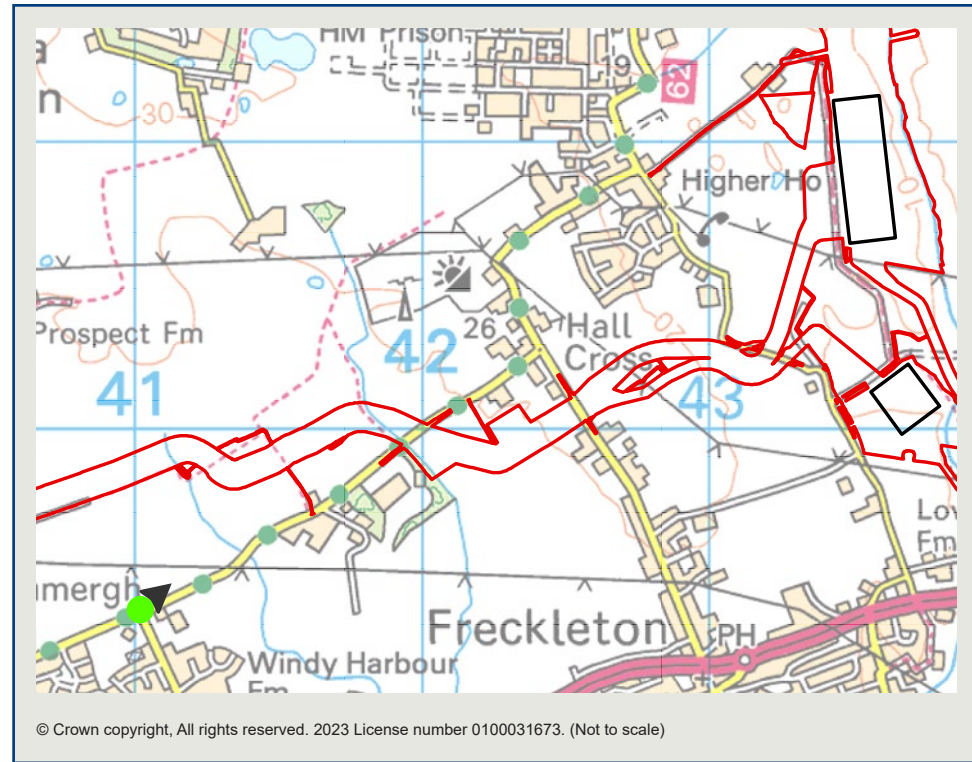
To be viewed at comfortable arms length

Appendix A



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP14: Freckleton, Hillock Lane (summer)

180° angle of view

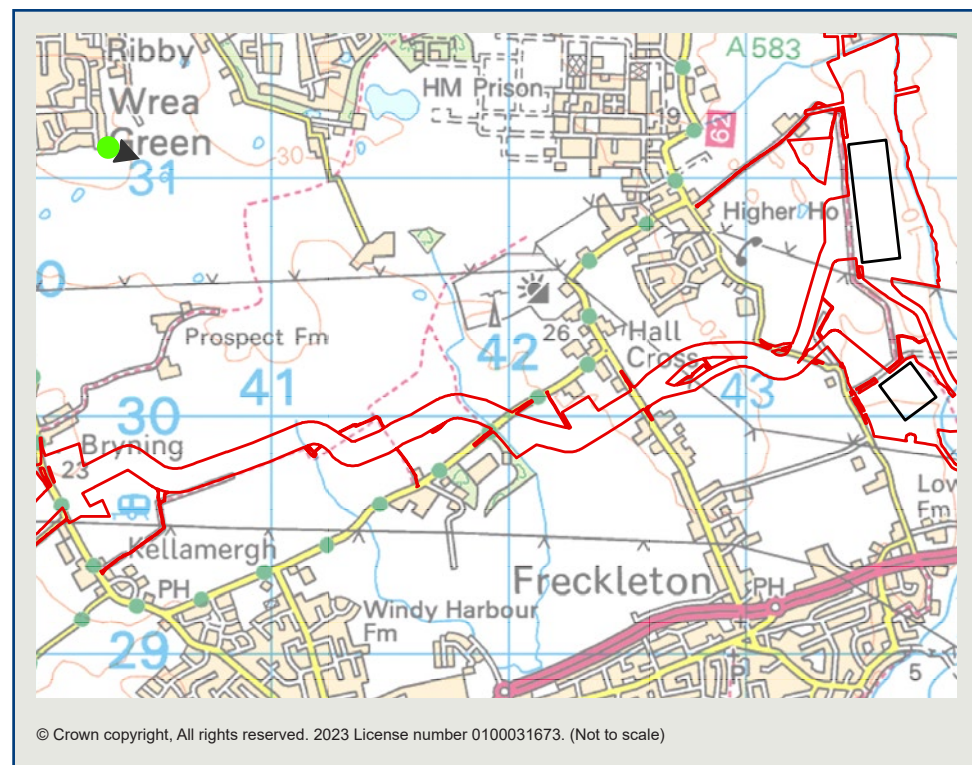
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

To be viewed at comfortable arms length

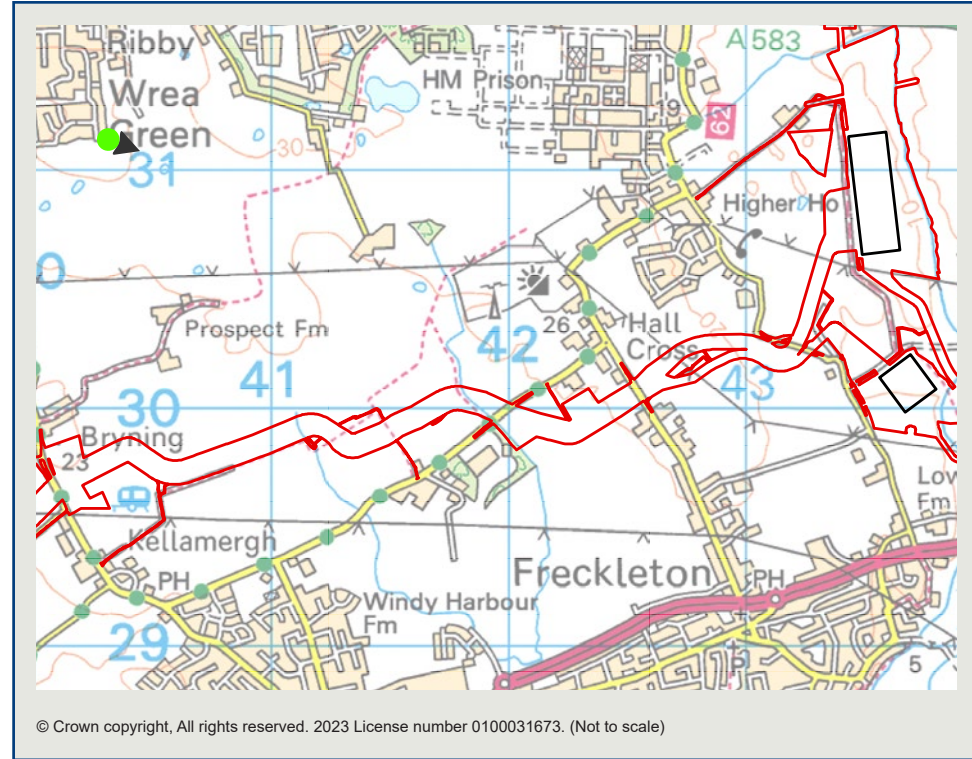
Appendix A





Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP15: Wrea Green public open space (summer)

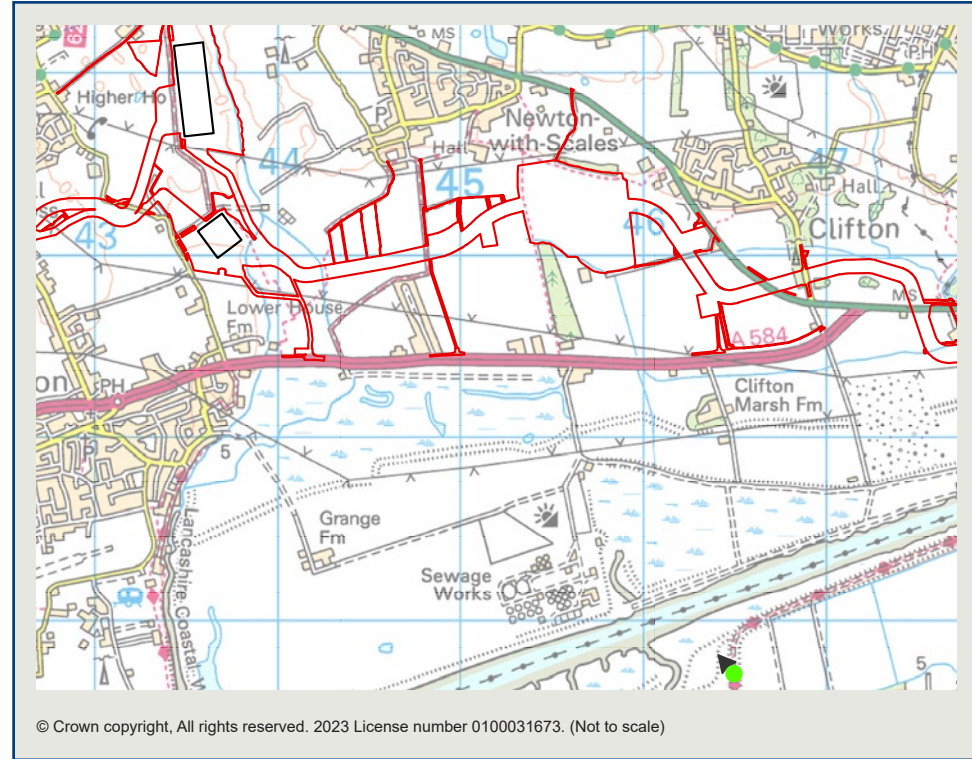
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

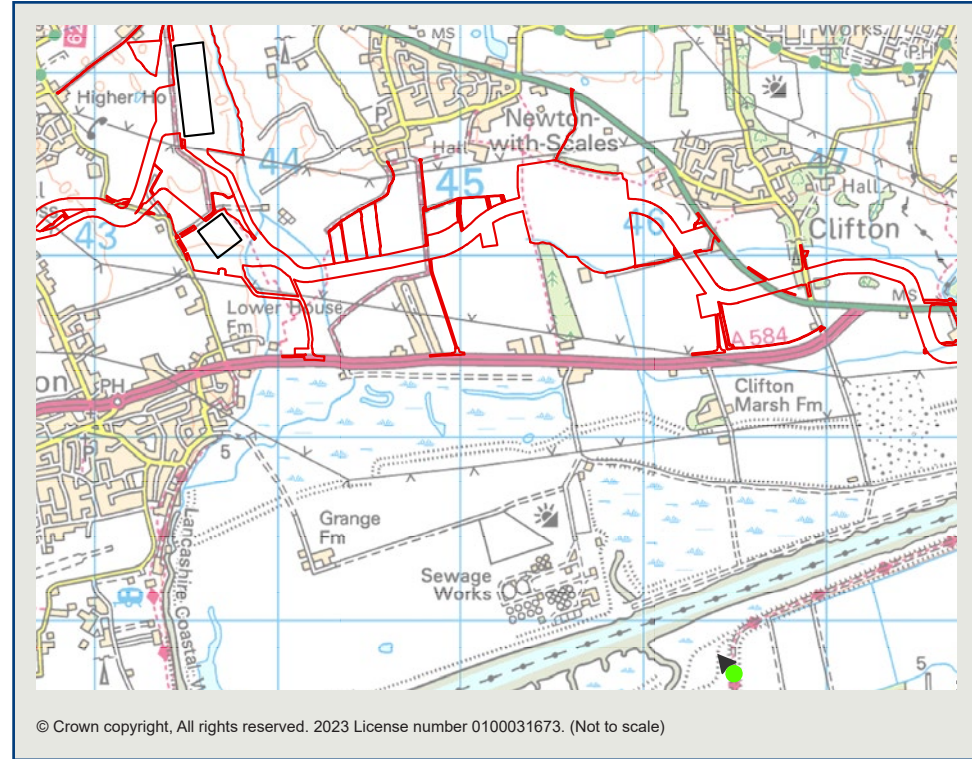
To be viewed at comfortable arms length

Appendix A



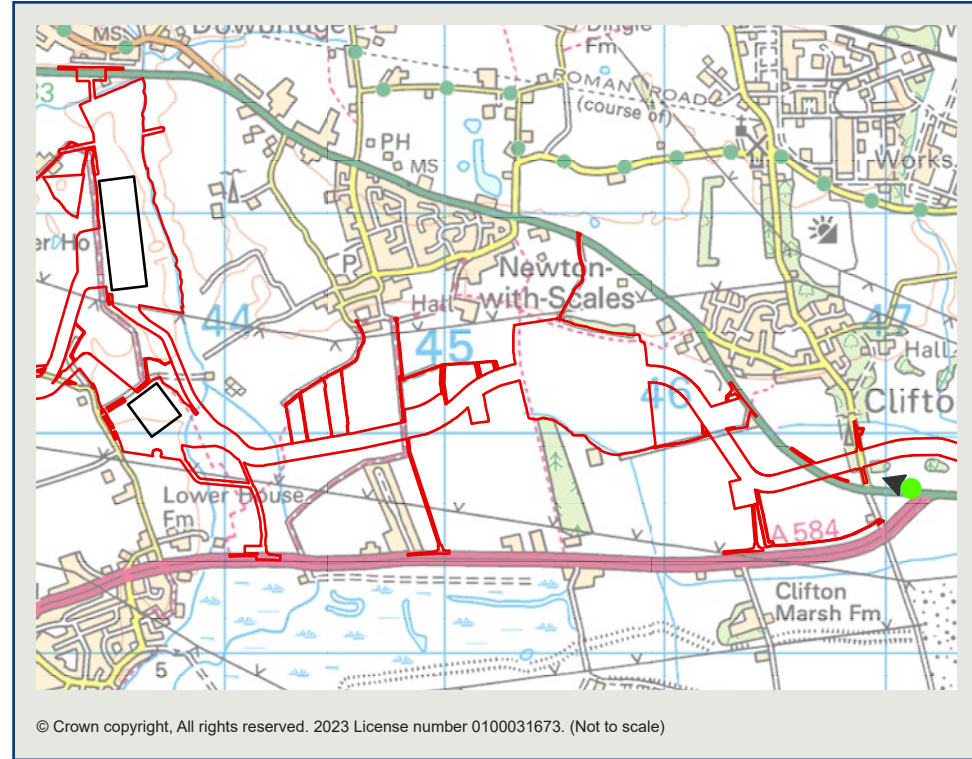
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12893-0157-06



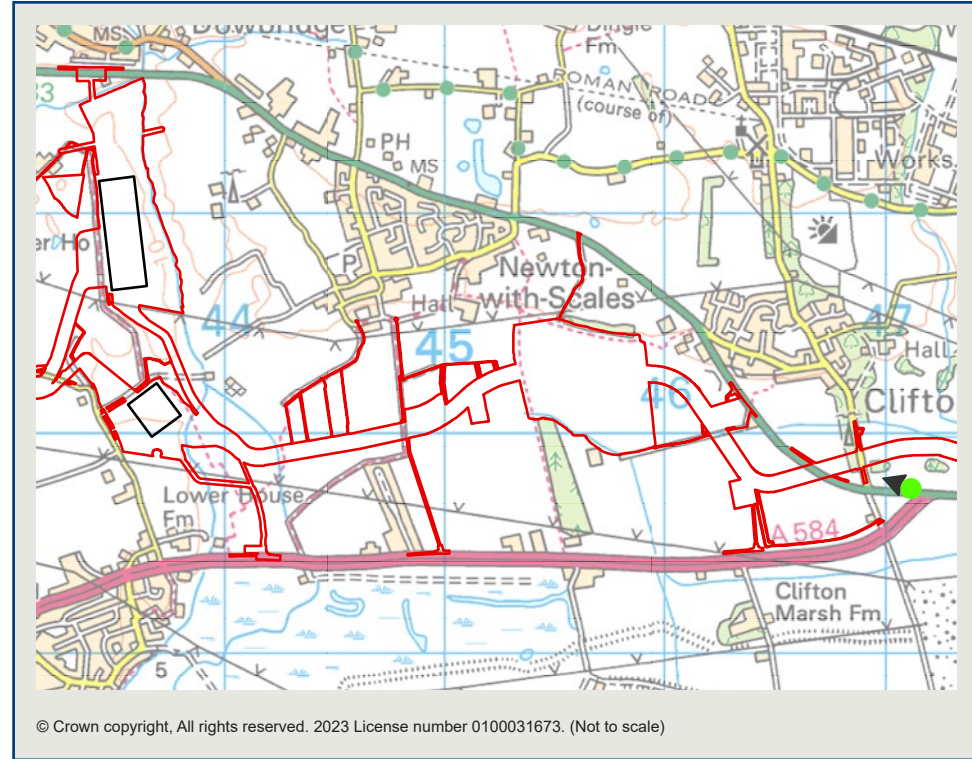
Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

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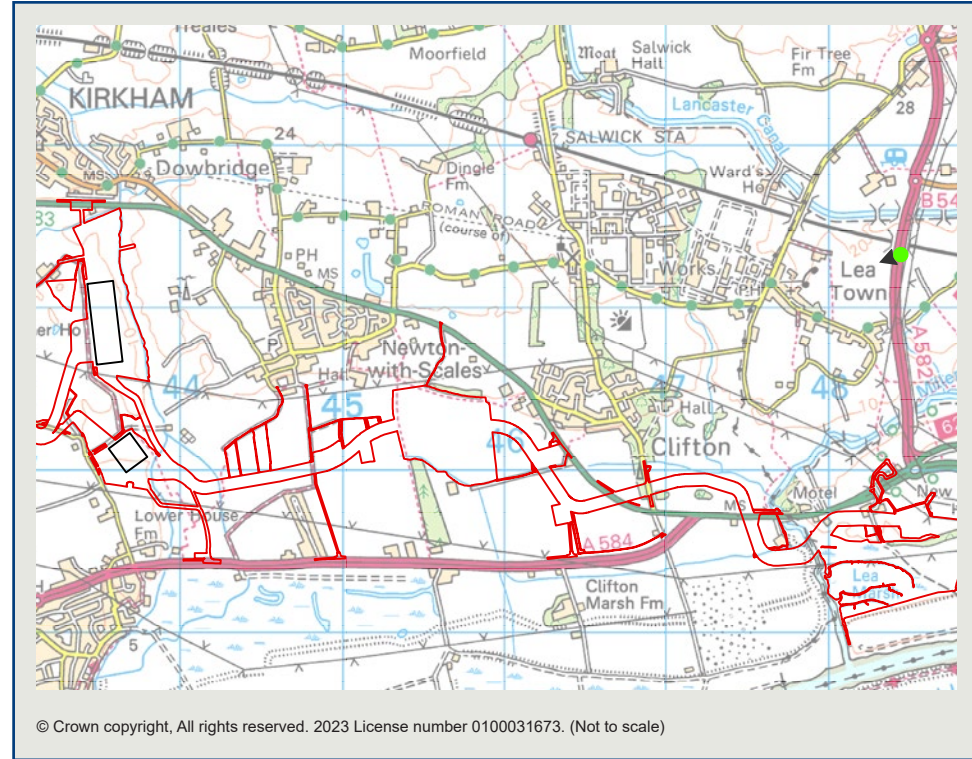
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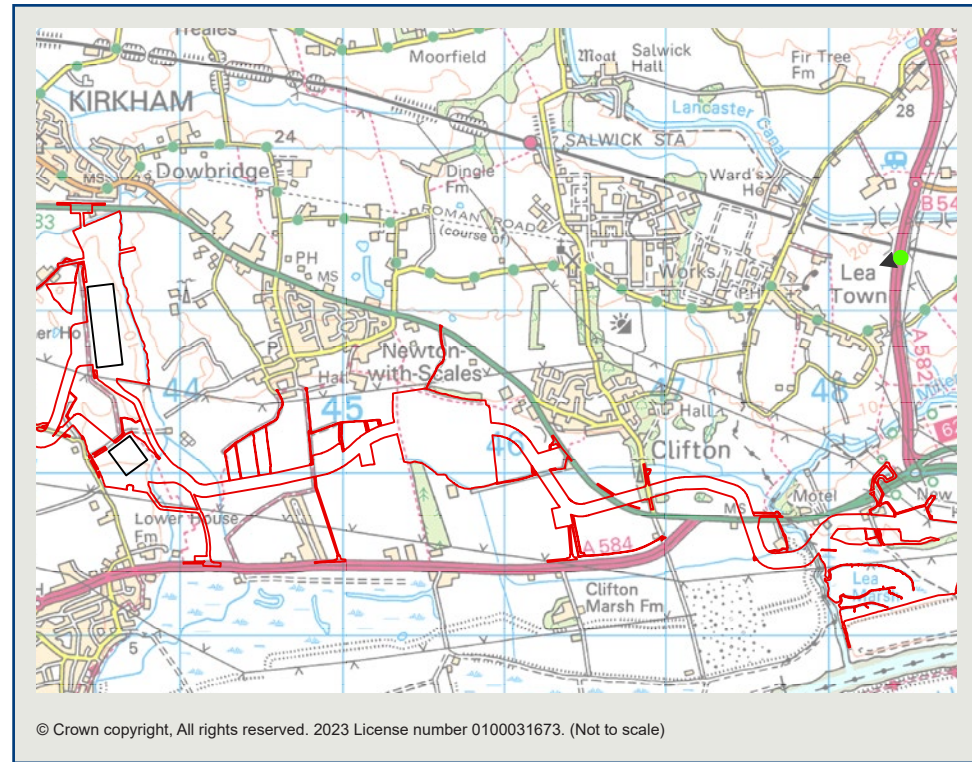
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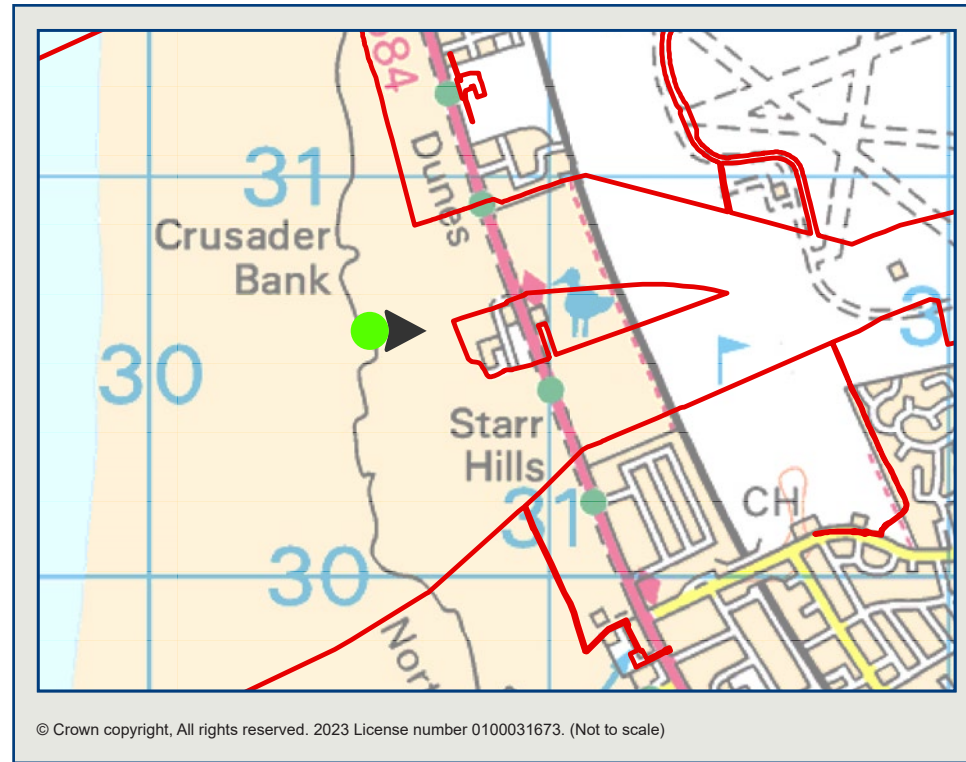
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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

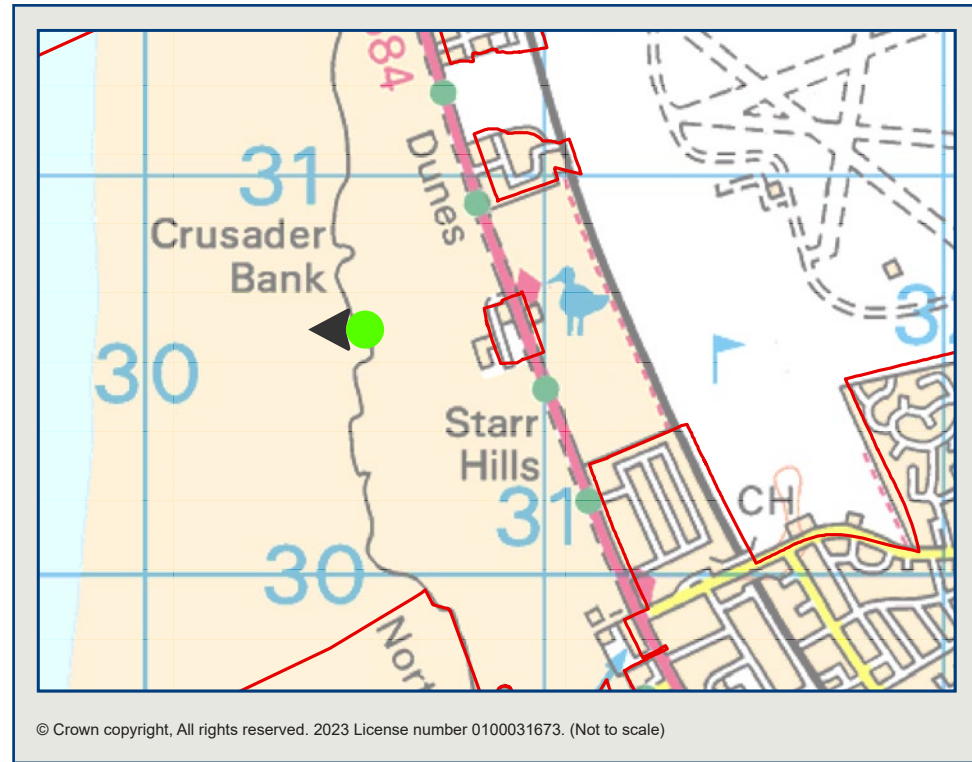
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Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Coloured lines delineate maximum extent of substation site length/width. No indication of substation height is included.

12893-0157-06



Representative Viewpoint VP22: Landfall, Blackpool beach south (view west)

180° angle of view

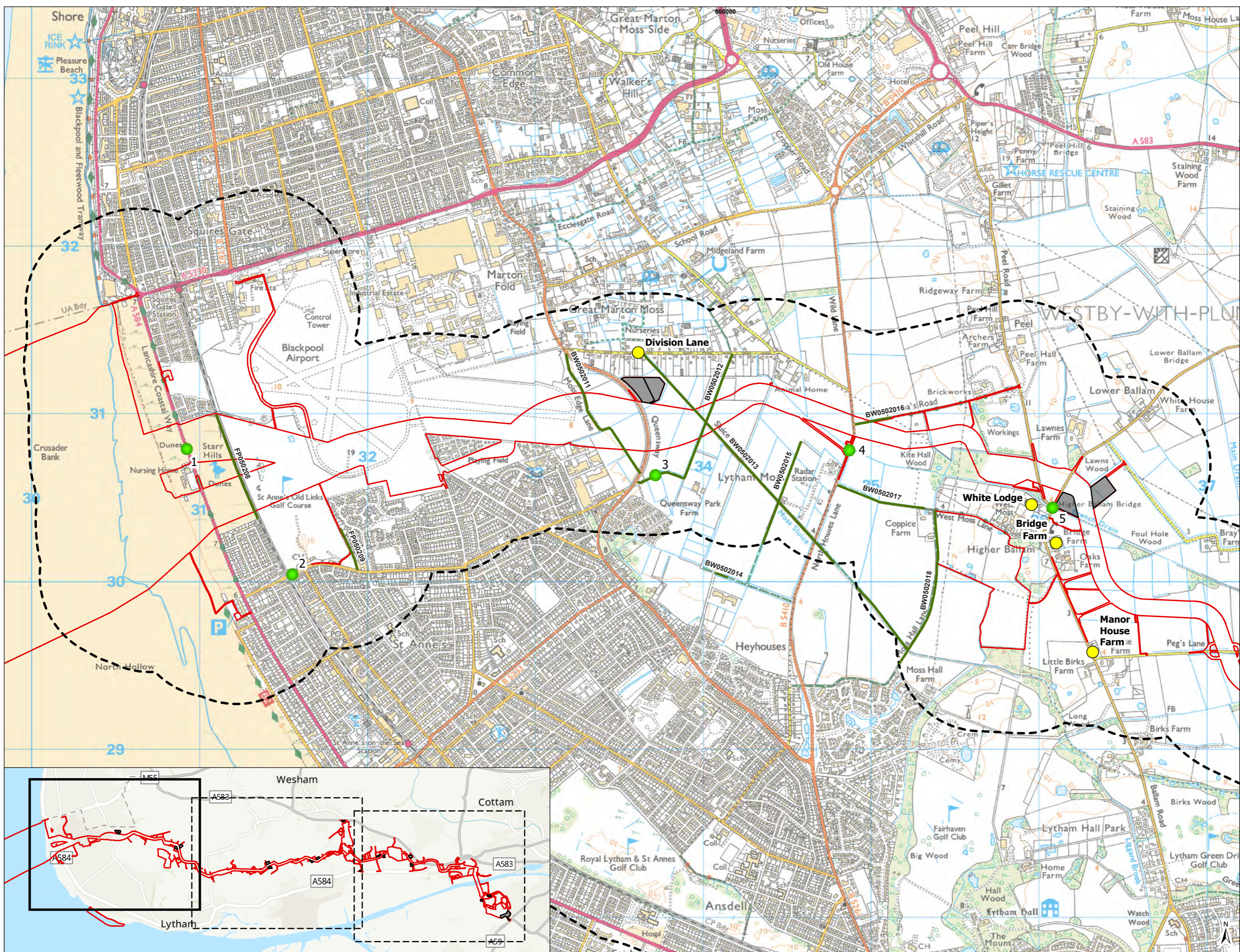
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Representative Viewpoint Photography

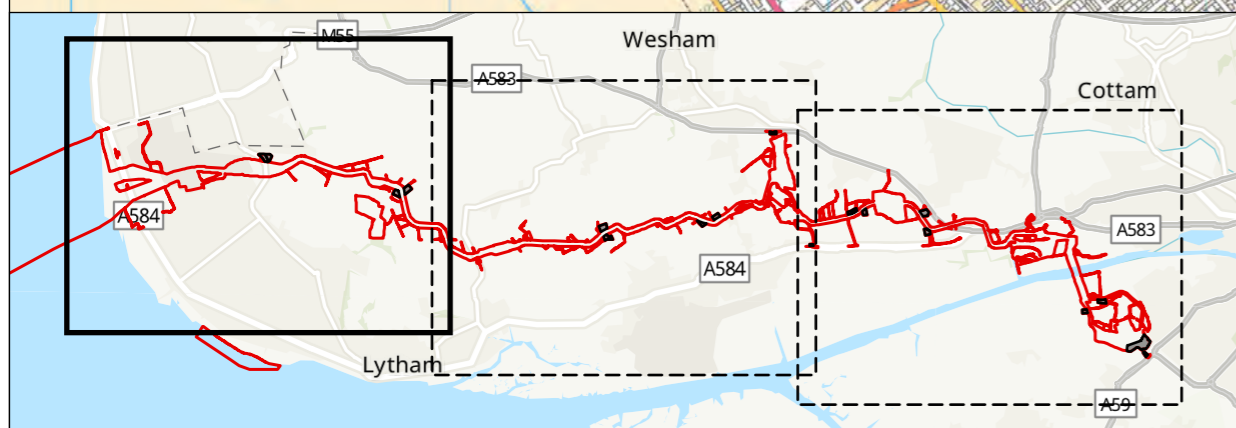
To be viewed at comfortable arms length

Appendix A

## **Appendix B : Footpaths and viewpoint locations along the onshore export cable corridor**



- LEGEND**
- Transmission Assets Order Limits
  - 500m buffer
  - Compounds
  - Public Right of Way
  - Illustrative Viewpoint Location
  - Residential Properties



**Geodetic Information:**  
 Datum: OSGB 1936  
 Projection: British National Grid  
 Scale@379mmx231mm: 1:20,000

**Data Sources:** bp, rowmaps.org

**Service Layer Credits:** World Topographic Map: Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS  
 World Topographic Map: DoBH, OS, Esri, HERE, Garmin, USGS, NGA

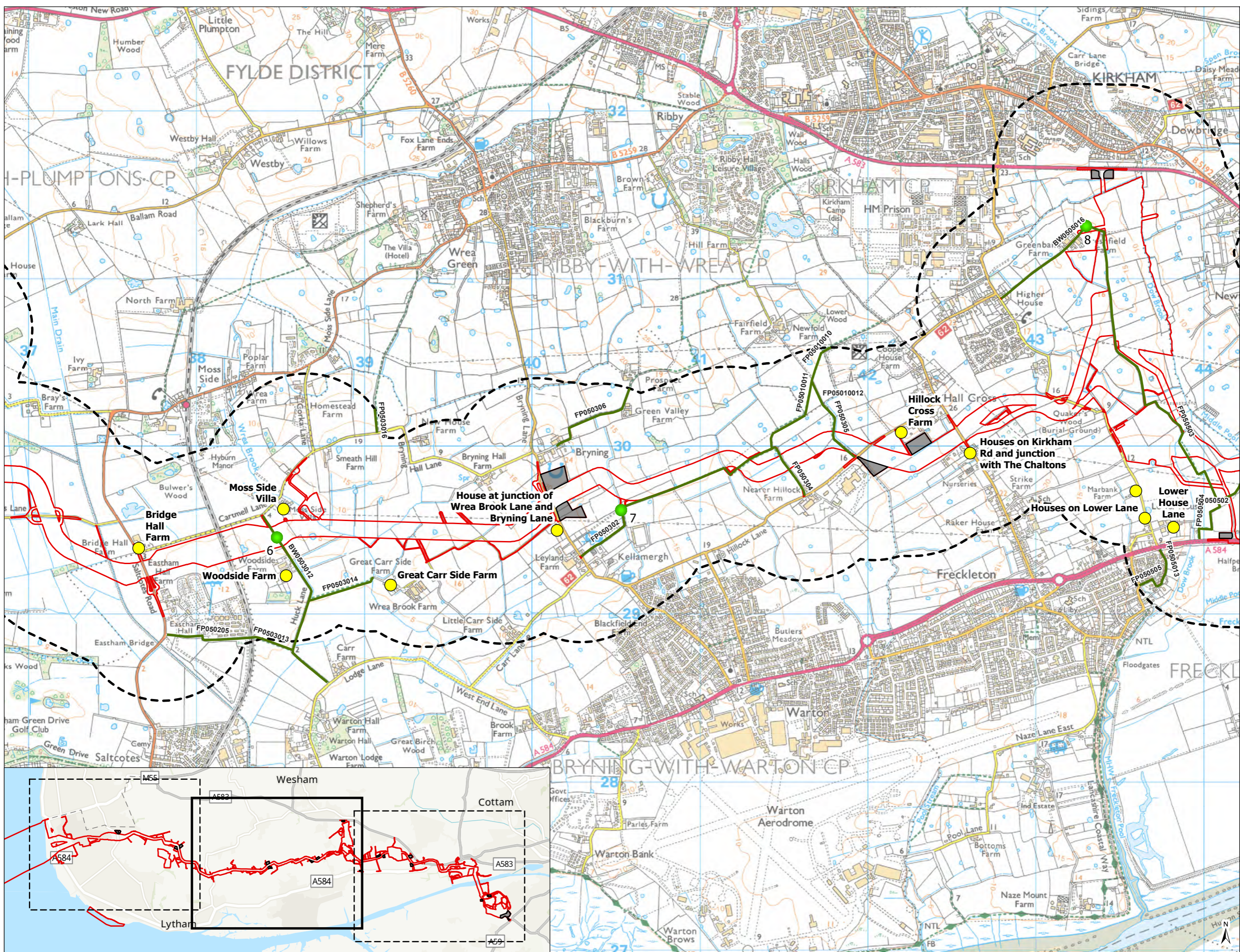
**Project Name:**  
 MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

**Drawing Title:**  
 APPENDIX B: FOOTPATHS AND ILLUSTRATIVE VIEWPOINT LOCATIONS ALONG THE ONSHORE CABLE CORRIDOR

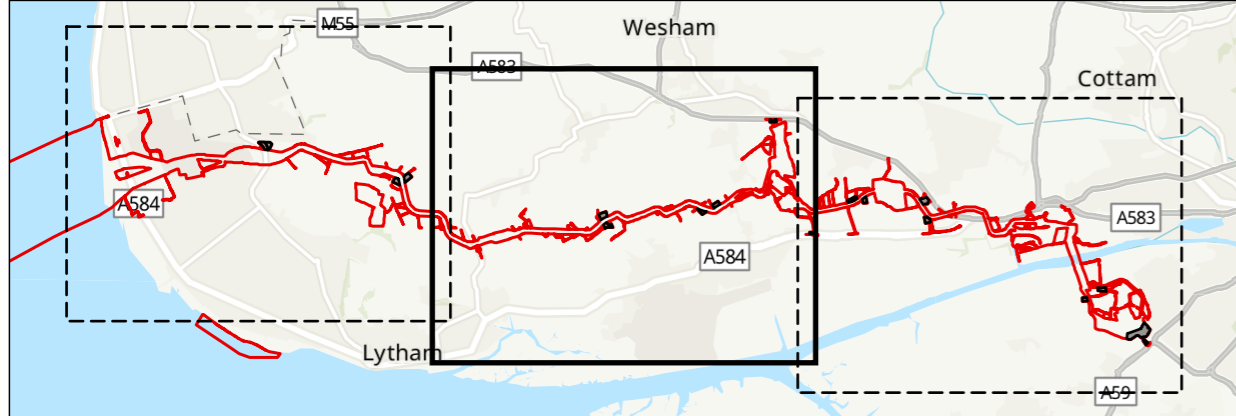
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VER	DATE	DETAILS	BY	CHECK
05	13/08/24	FINAL	JM	PE



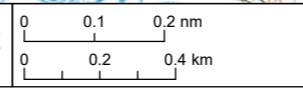


- LEGEND**
- Transmission Assets Order Limits
  - 500m buffer
  - Compounds
  - Public Right of Way
  - Illustrative Viewpoint Location
  - Residential Properties



**Project Name:**  
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

**Drawing Title:**  
APPENDIX B: FOOTPATHS AND ILLUSTRATIVE VIEWPOINT LOCATIONS ALONG THE ONSHORE CABLE CORRIDOR



**Geodetic Information:**  
Datum: OSGB 1936  
Projection: British National Grid  
Scale@379mmx231mm: 1:20,000

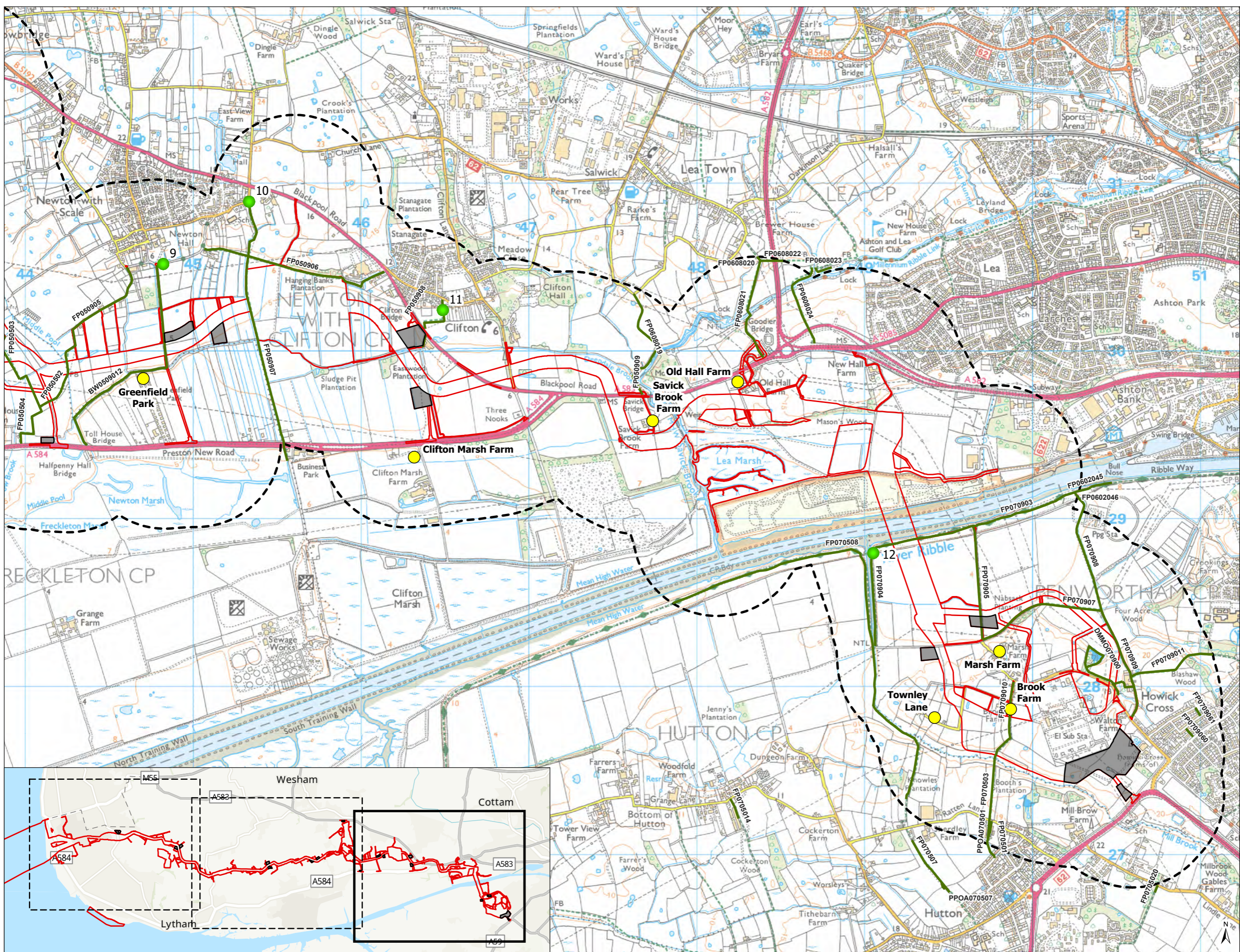
**Data Sources:** bp, rowmaps.org

**Service Layer Credits:** World Topographic Map: Esri, HERE, Garmin, FAO, USGS  
World Topographic Map: Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS

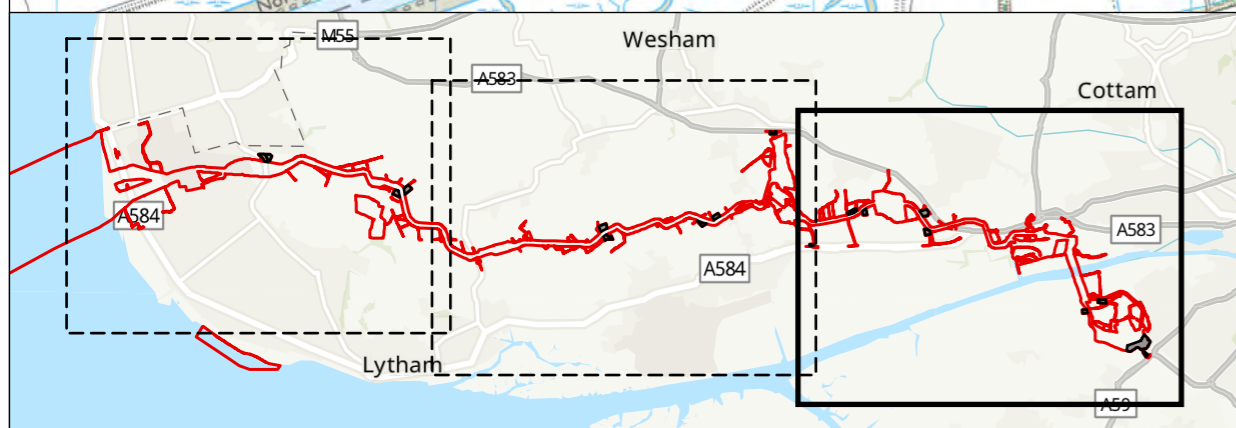
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12693-0263-05

VER	DATE	DETAILS	BY	CHECK
05	13/08/24	FINAL	JM	PE





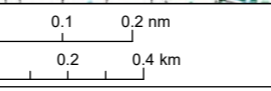
- LEGEND**
- Transmission Assets
  - Order Limits
  - 500m buffer
  - Compounds
  - Public Right of Way
  - Illustrative Viewpoint Location
  - Residential Properties



Drawing Number:  
12693-0263-05

**Project Name:**  
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

**Drawing Title:**  
APPENDIX B: FOOTPATHS AND ILLUSTRATIVE VIEWPOINT LOCATIONS ALONG THE ONSHORE CABLE CORRIDOR



**Geodetic Information:**  
Datum: OSGB 1936  
Projection: British National Grid  
Scale@379mmx231mm: 1:20,000

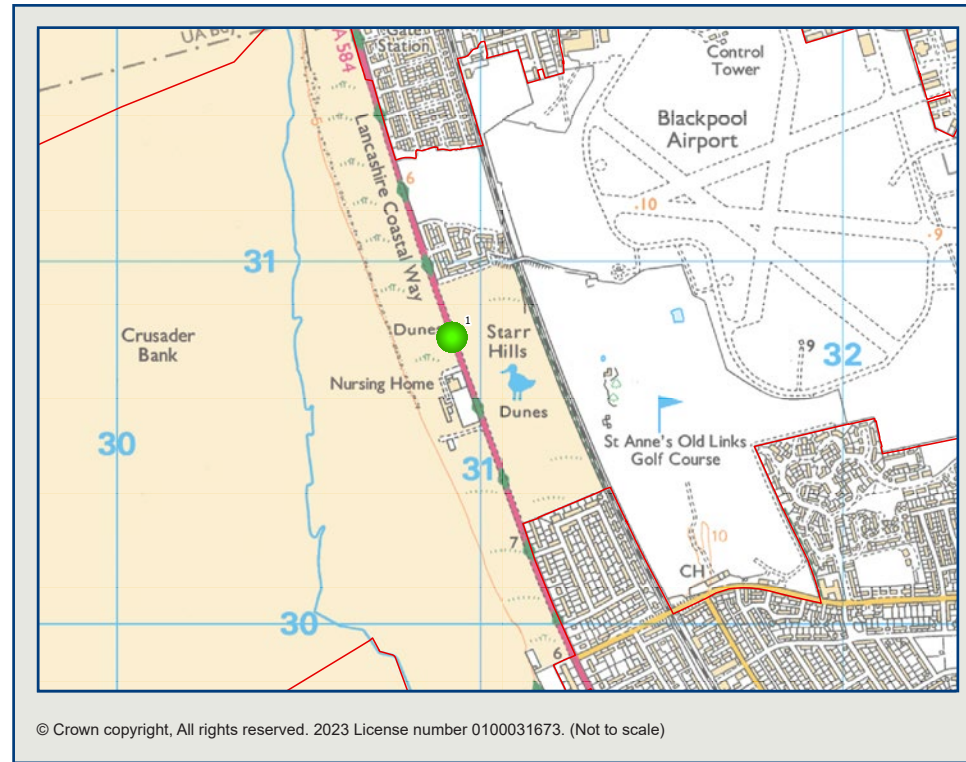
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**Service Layer Credits:** World Topographic Map: Esri UK, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS  
World Topographic Map: DoH, OS, Esri, HERE, Garmin, USGS, NGA

VER	DATE	DETAILS	BY	CHECK
05	13/08/24	FINAL	JM	PE

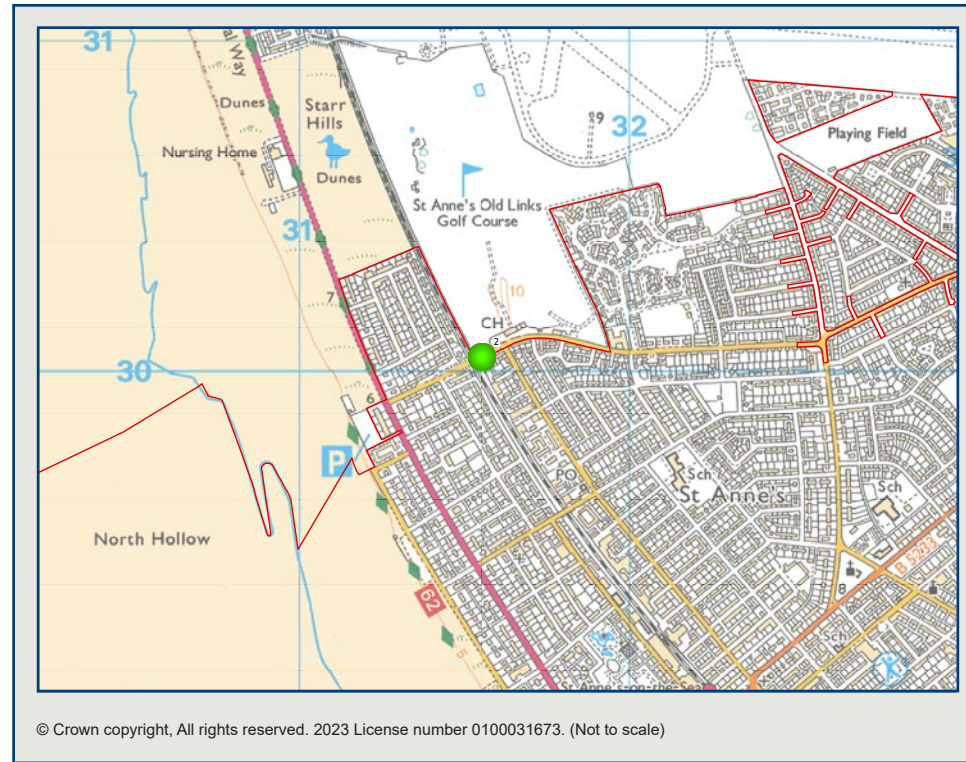
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## **Appendix C: Contextual photography for the onshore export cable corridor**



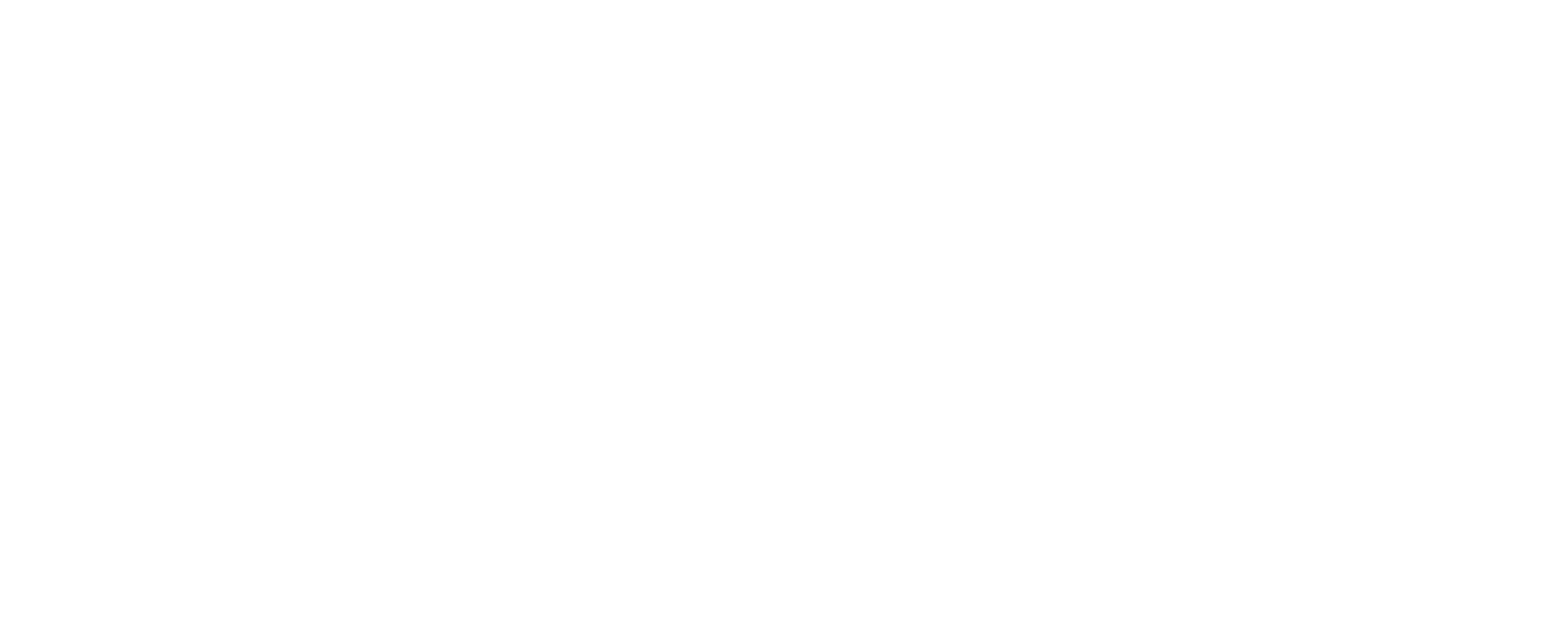
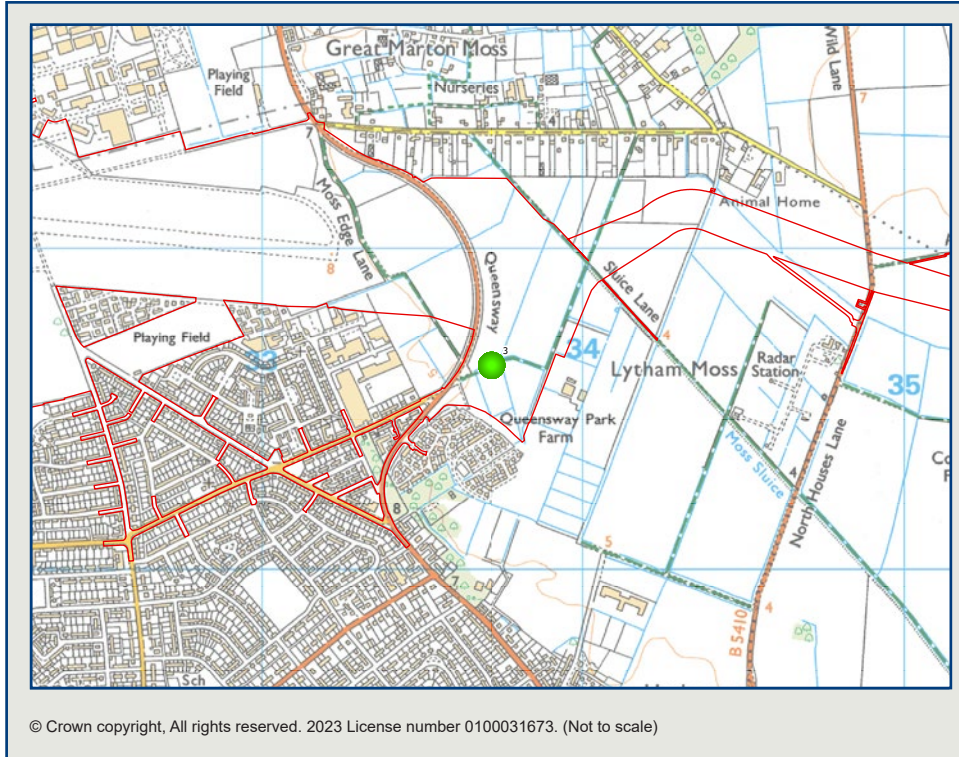
12895-0266-01





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12895-02866-01



Illustrative Viewpoint VP3: Farm access track and bridleway off B5261 Queensway (winter)

180° angle of view

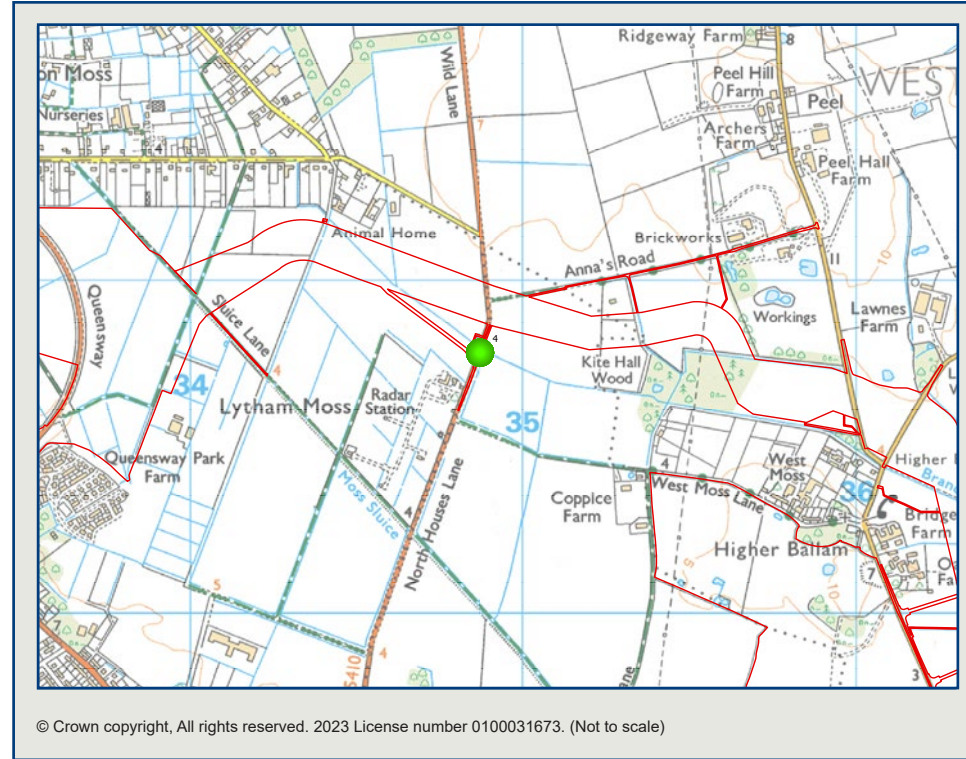
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Contextual Photography for the Onshore Cable Corridor

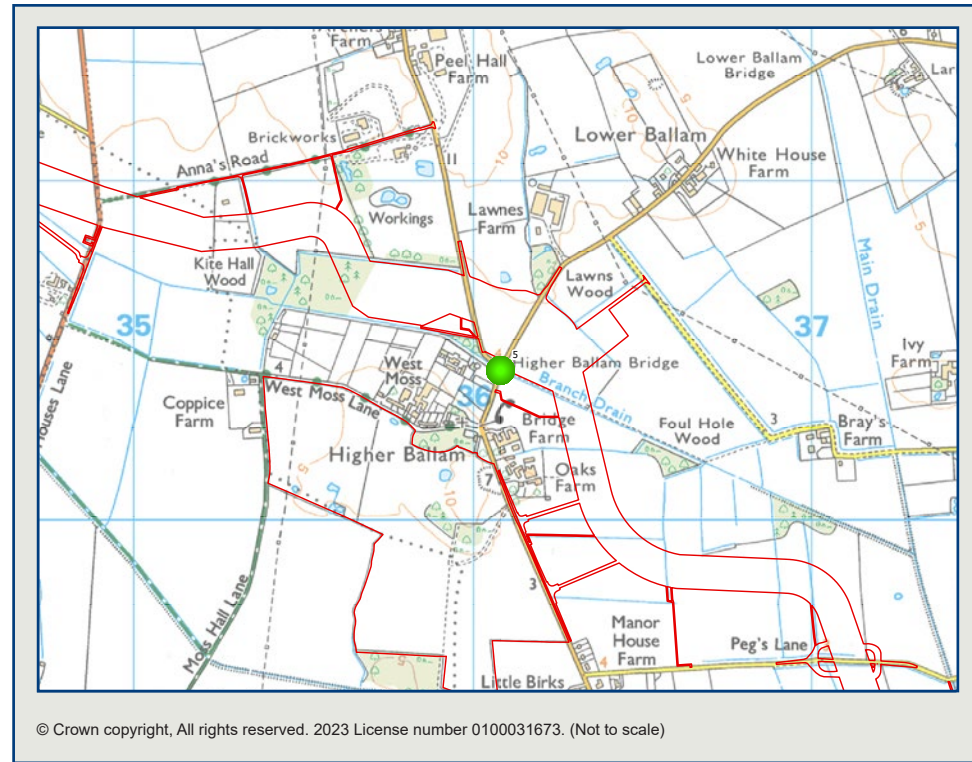
To be viewed at comfortable arms length

Appendix C

12895-0286-01



12893-0286-01



Illustrative Viewpoint VP6: Ballam Road and Peel Road (winter)

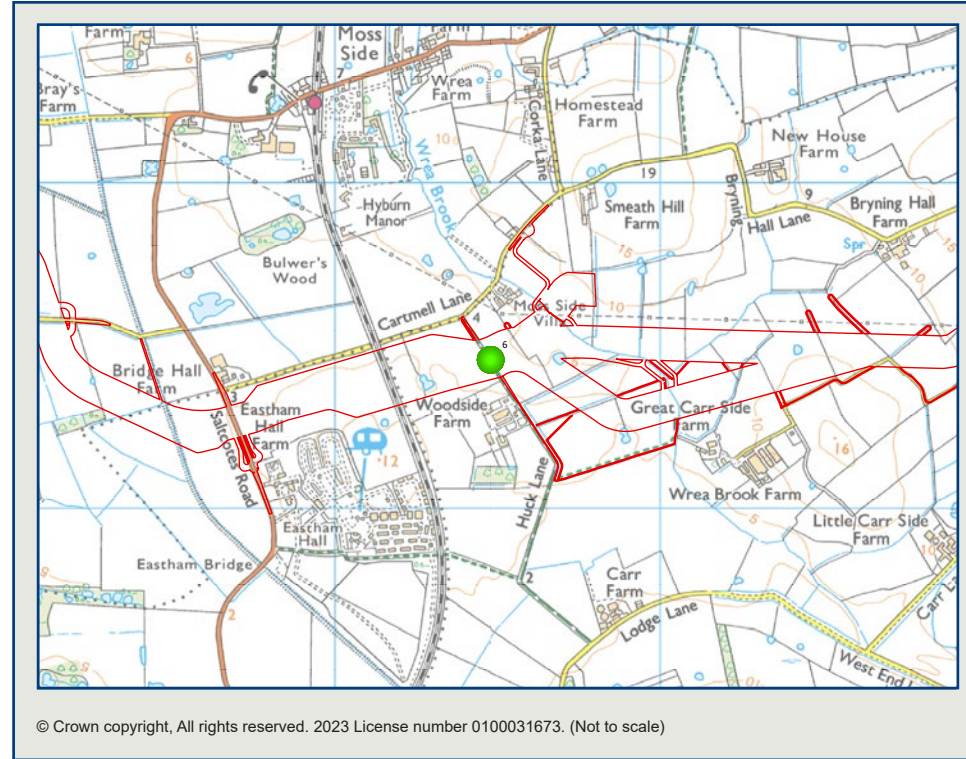
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

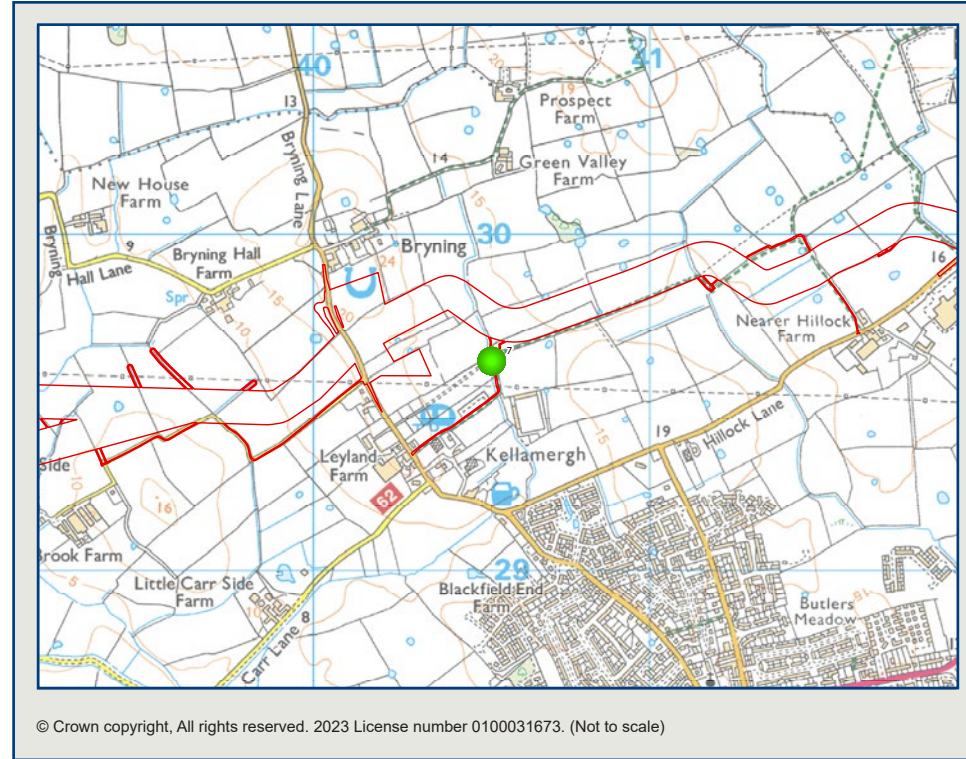
Appendix C



Moss Side Villa



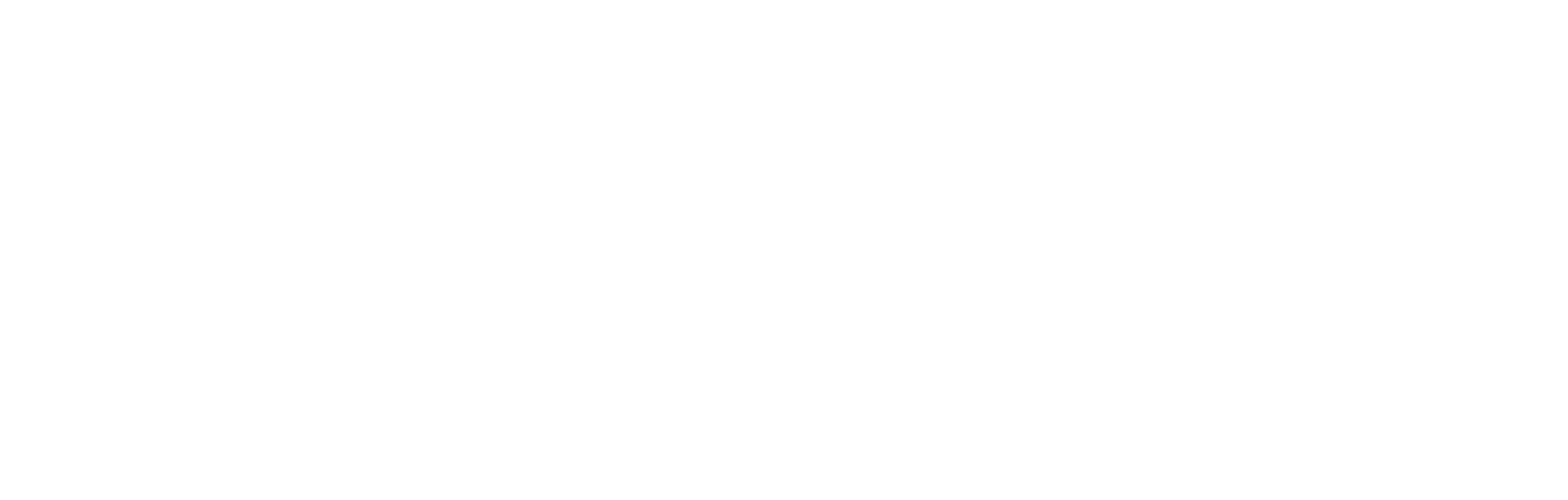
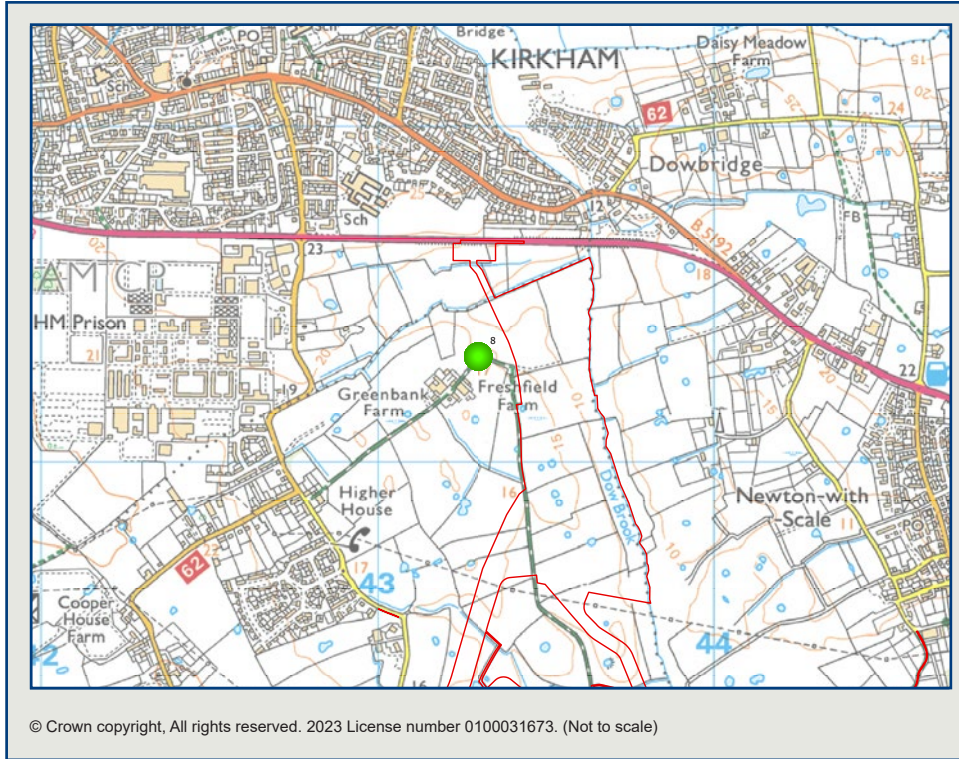
12893-0286-01



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12895-02866-01



Illustrative Viewpoint VP8: Bridleway north-west of Morgan substation site (winter)

180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

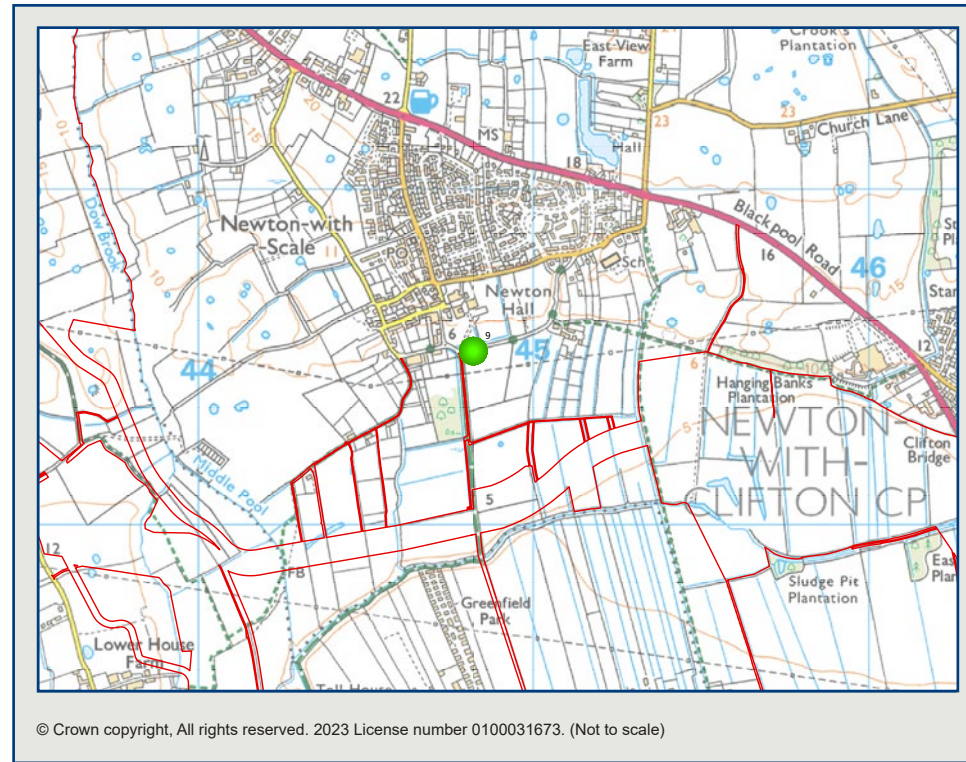
Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

Appendix C

12894-0286-01





12893-0286-01



Illustrative Viewpoint VP9: Lane at Newton Hall (winter)

180° angle of view

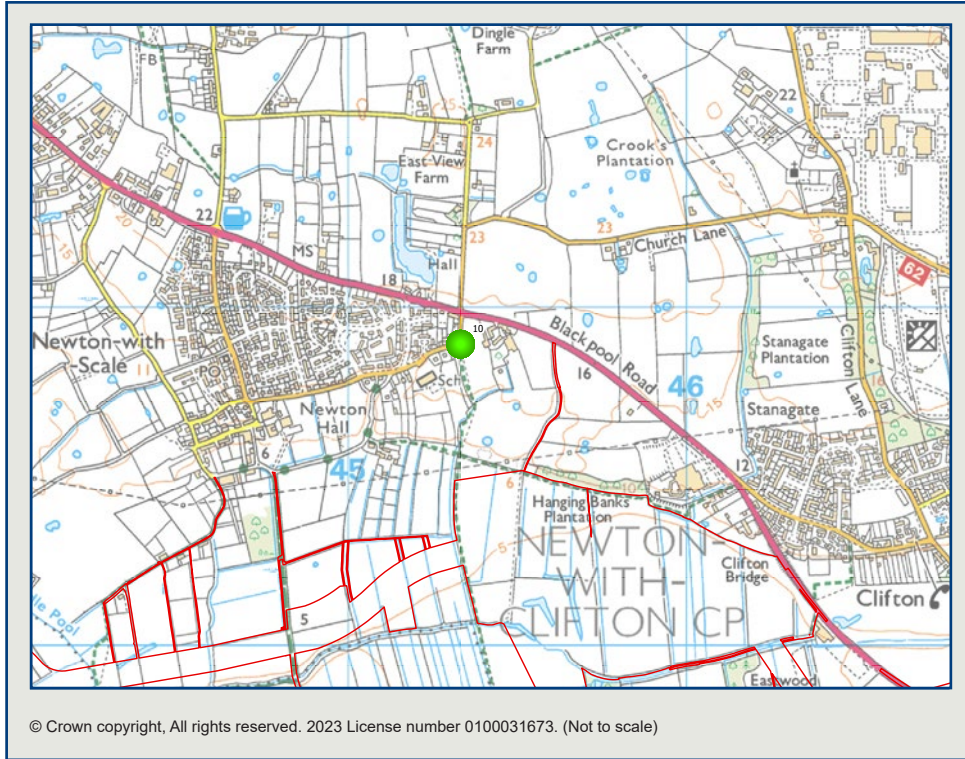
MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

Appendix C





Illustrative Viewpoint VP10: Public footpath at Newton-with-Scale (winter)

180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

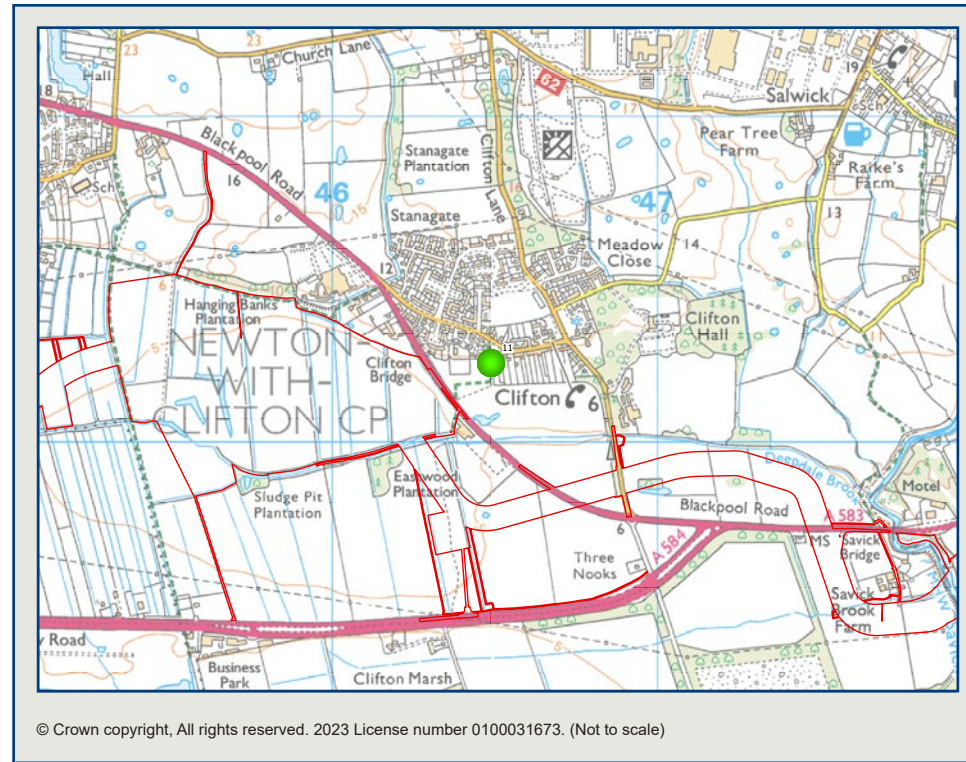
Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

Appendix C

12895-02866-01





Illustrative Viewpoint VP11: Public footpath south of Clifton (winter)

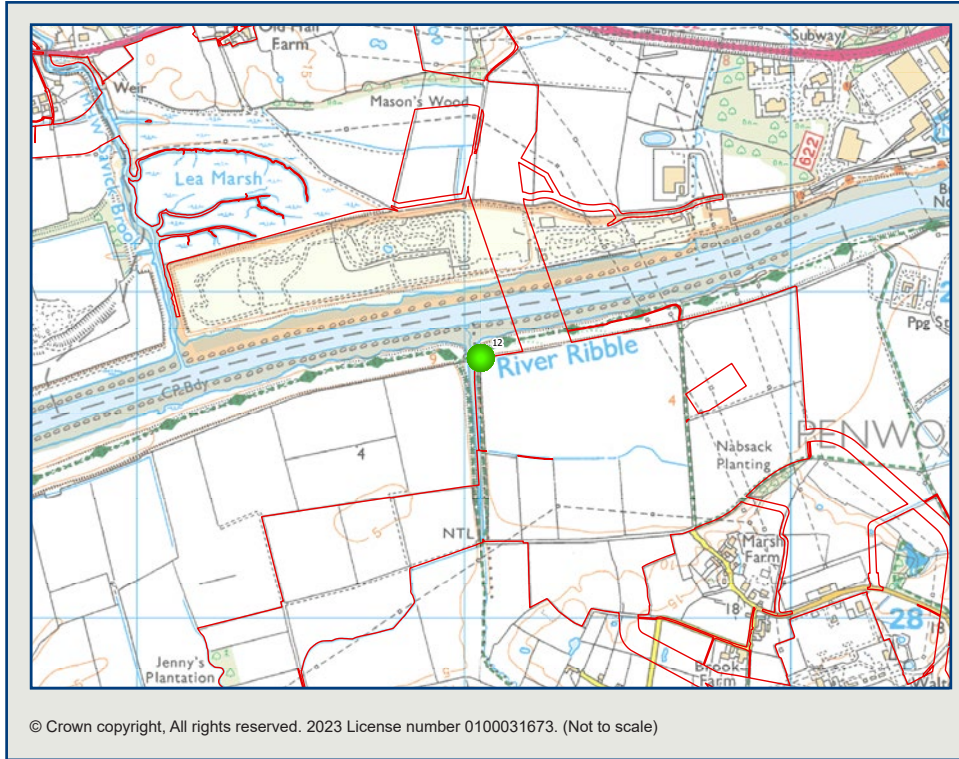
180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

Appendix C



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12893-02868-01



Illustrative Viewpoint VP12: River Ribble Way (winter)

180° angle of view

MORGAN AND MORECAMBE OFFSHORE WIND FARMS: TRANSMISSION ASSETS

Contextual Photography for the Onshore Cable Corridor

To be viewed at comfortable arms length

Appendix C