NORTH FALLS

*Offshore Wind Farm*

# ENVIRONMENTAL STATEMENT

## Chapter 30 – Figures (Part 1 of 6)

| | |
|---|---|
| Document Reference: | 3.2.26 |
| Volume: | 3.2 |
| APFP Regulation: | 5(2)(a) |
| Date: | July 2024 |
| Revision: | 0 |

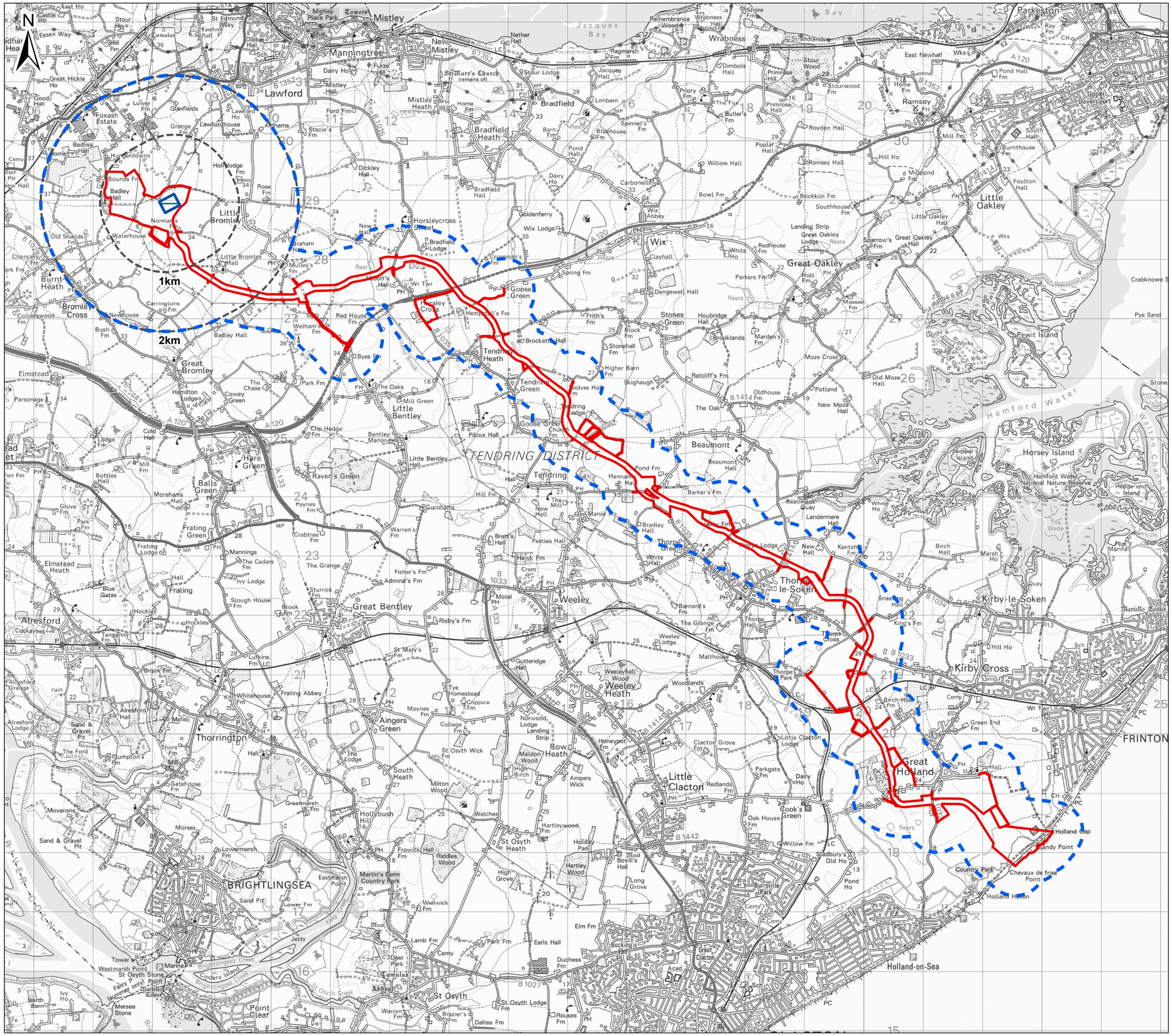
## Project Reference: EN010119

NORTH FALLS
Offshore Wind Farm

| | |
|---|---|
| **Project** | North Falls Offshore Wind Farm |
| **Document Title** | Environmental Statement Chapter 30 - Figures |
| **Document Reference** | 3.2.26 |
| **APFP Regulation** | 5(2)(a) |
| **Supplier** | Royal HaskoningDHV |
| **Supplier Document ID** | PB9244-RHD-ES-ON-RP-ON-0214 |



| Revision | Date | Status/Reason for Issue | Originator | Checked | Approved |
|---|---|---|---|---|---|
| 0 | July 2024 | Submission | LUC | NFOW | NFOW |
| | | | | | |
| | | | | | |
| | | | | | |




**Legend**

- North Falls Onshore Project Area
- North Falls Onshore Substation
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer

0 1 2 3 4 km

Data Source: OS, LUC, RHDHV

Drawing Title

# Landscape and Visual Impact Assessment Study Area

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |
| | | | | |
| | | | | |
| | | | | |

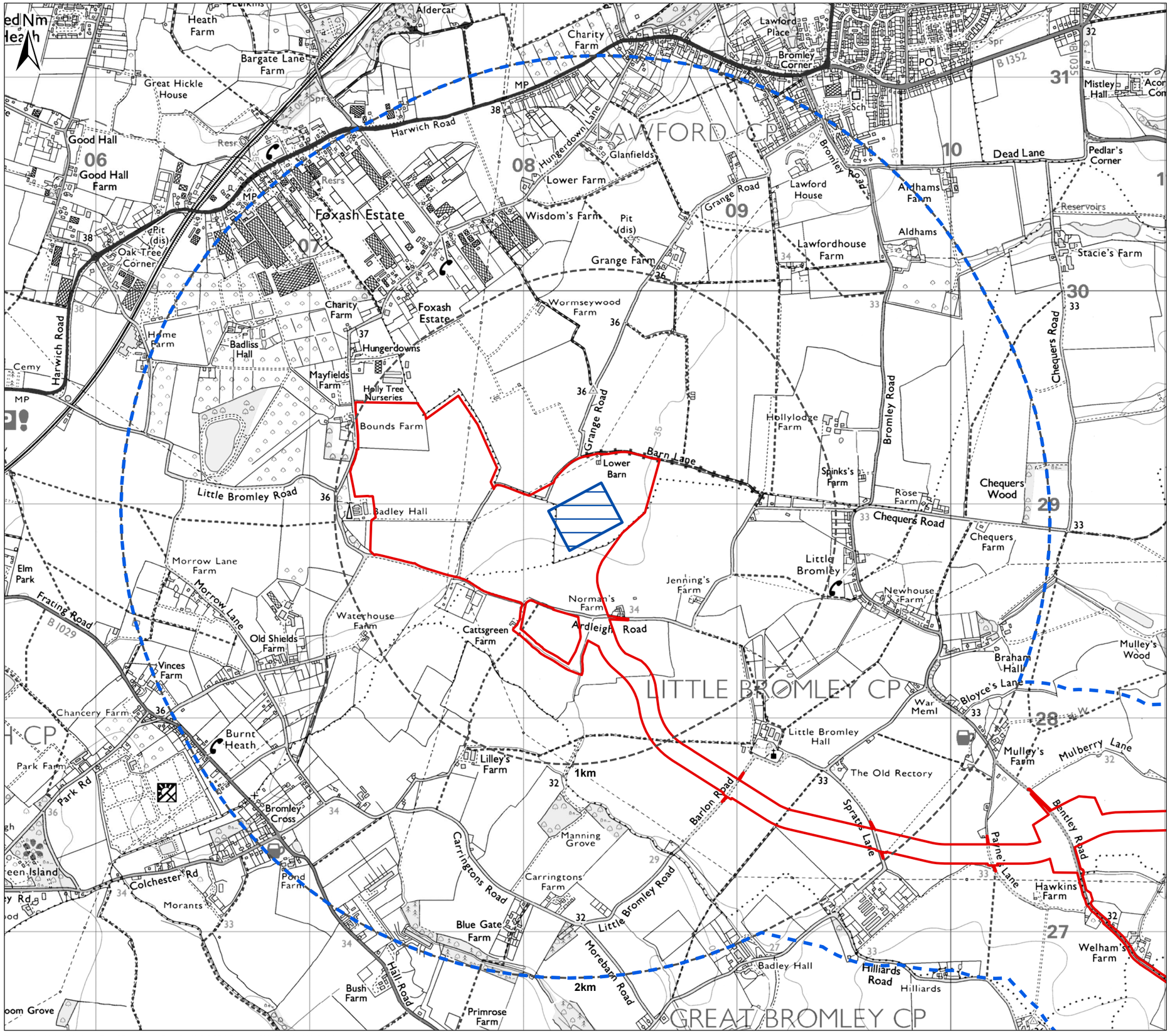
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0040 | 30.1.1a |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:65,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
Offshore Wind Farm

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




**Legend**

- North Falls Onshore Project Area
- North Falls Onshore Substation
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer

0 0.5 1 km

Data Source: OS, LUC, RHDHV

Drawing Title

# Landscape and Visual Impact Assessment Study Area (Onshore Substation)

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |
| | | | | |
| | | | | |
| | | | | |

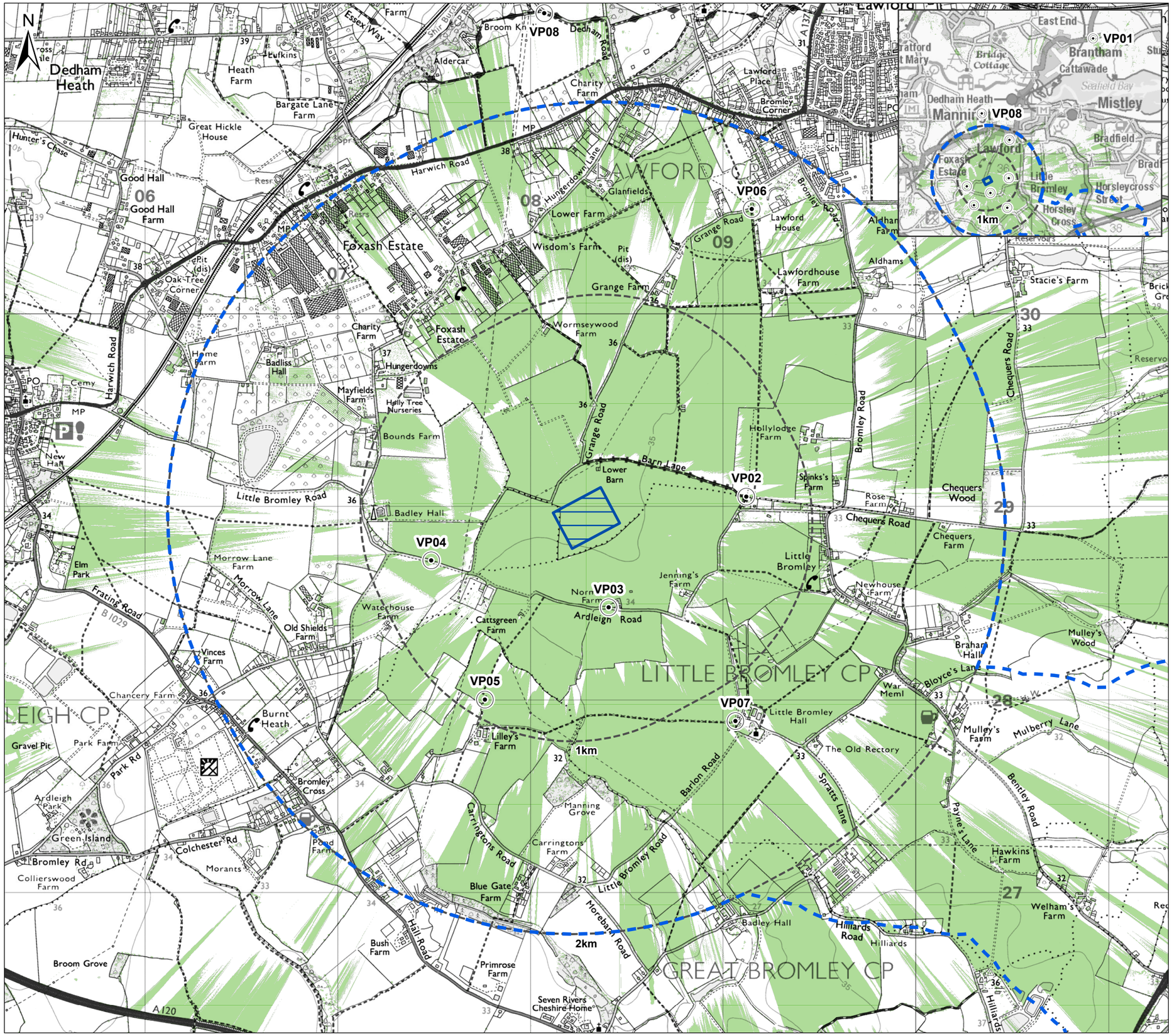
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0039 | 30.1.1b |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:18,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
*Offshore Wind Farm*

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




**Legend**

- North Falls Substation Operational Footprint
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer
- Theoretical Visibility of Substation Components
- Viewpoint

VP01: Court Farm Stutton Road
VP02: Bridleway at Barn Lane
VP03: Norman's Farm
VP04: Little Bromley Road
VP05: Public Right of Way near Lilley's Farm
VP06: Grange Road
VP07: Public Right of Way near Little Bromley Hall
VP08: Essex Way, Dedham Road

**Notes**

The ZTV is calculated to a height of 18m (lightning masts) for the substation operational footprint, from a viewing height of 1.5m above ground level.

The digital surface model (DSM) used is LIDAR 1m (2022) data (obtained from DEFRA in December 2023). A DSM includes a surface model of trees, buildings and hedges. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.2 software.

0 0.5 1 km

Data Source: OS, LUC, RHDHV

Drawing Title

## Substation Zone of Theoretical Visibility (18m in height) and Viewpoint Locations

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |
| | | | | |
| | | | | |
| | | | | |

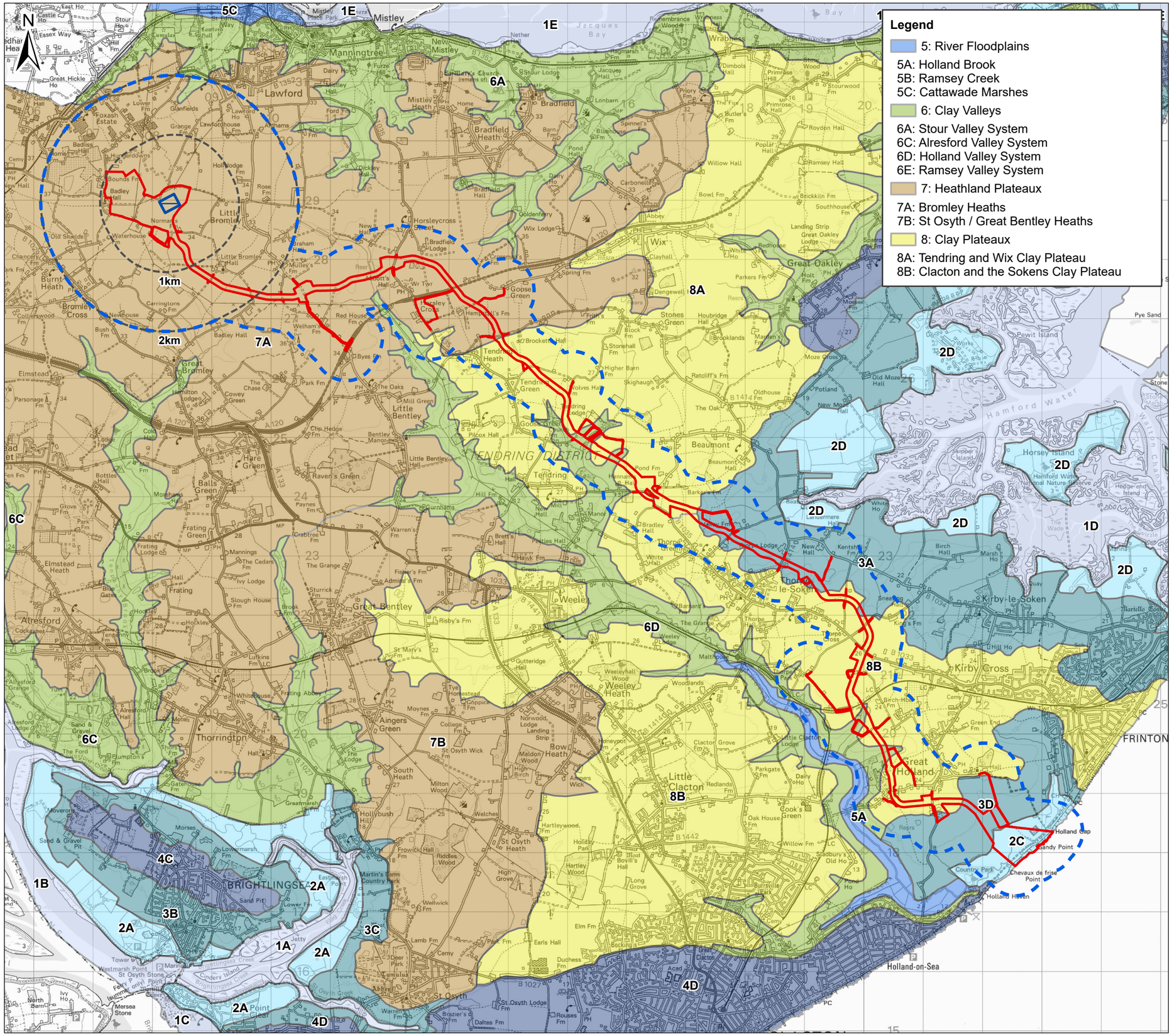
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0041 | 30.1.2 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:20,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
Offshore Wind Farm

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




**Legend**

- North Falls Onshore Project Area
- North Falls Substation Operational Footprint
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer

**Tendring Landscape Character Areas**

- 1: Open Estuarine / Coastal Marsh
  - 1A: Brightlingsea Creek Marshes
  - 1B: Colne Estuary Marshes
  - 1C: Colne Point Marshes
  - 1D: Hamford Water Marshes
  - 1E: Stour Estuary Marshes
- 2: Drained Estuarine / Coastal Marsh
  - 2A: Brightlingsea Drained Marshes
  - 2C: Holland Haven
  - 2D: Hamford Drained Marshes Marshes and Islands
  - 2E: Parkeston Drained Marshes
- 3: Coastal Slopes
  - 3A: Hamford Coastal Slopes
  - 3B: Brightlingsea Coastal Slopes
  - 3C: St Osyth Coastal Slopes
  - 3D: Holland Coastal Slopes
- 4: Coastal Ridges and Peninsulas
  - 4A: The Oakley Ridge
  - 4C: Brightlingsea Peninsula
  - 4D: St Osyth Coastal Ridge

0 1 2 3 4 km

Data Source: OS, LUC, RHDHV

Drawing Title

# Landscape Character Types

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |

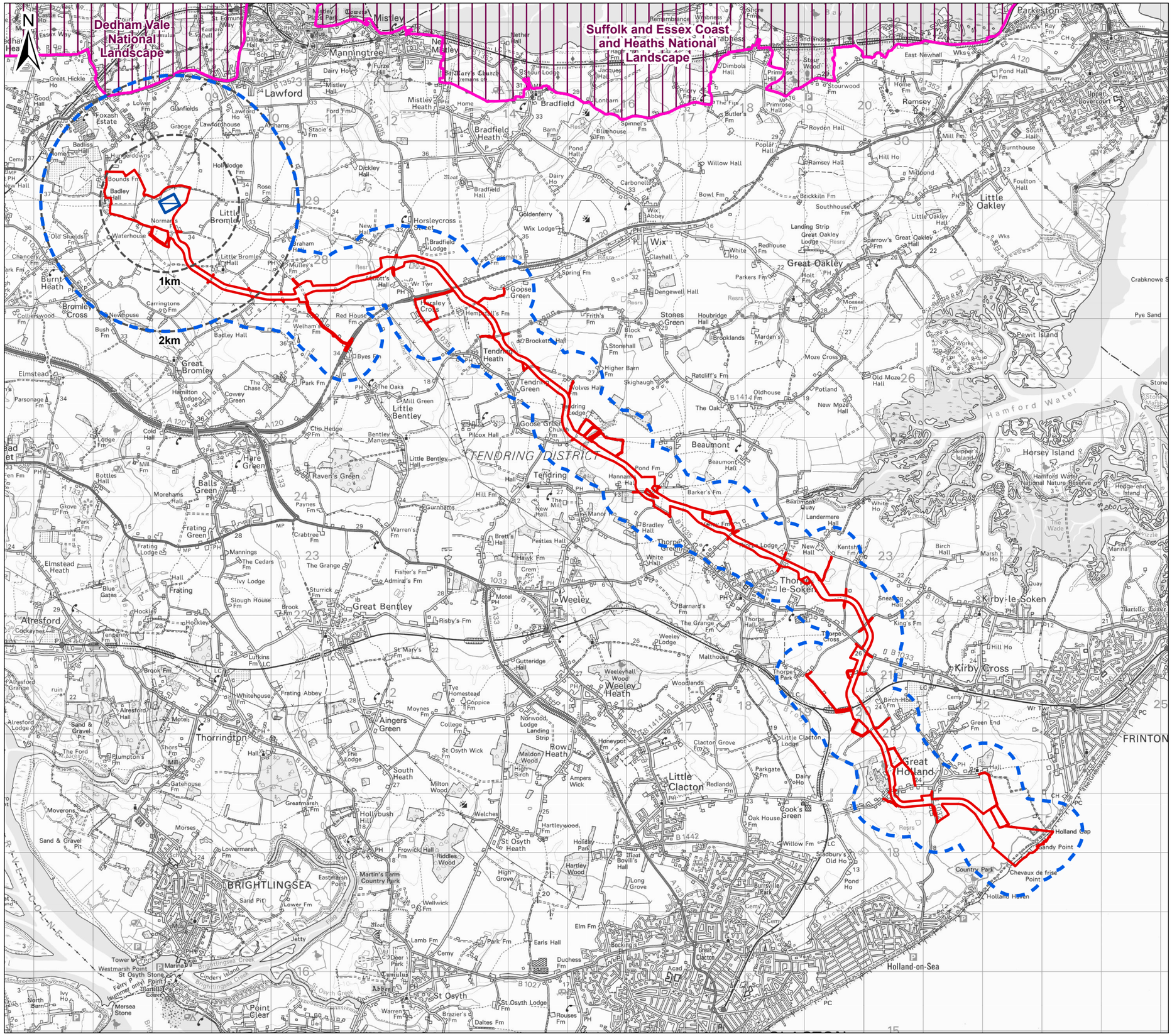
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0042 | 30.1.3 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:65,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS Offshore Wind Farm

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




**Legend**

- North Falls Onshore Project Area
- North Falls Substation Operational Footprint
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer
- National Landscape

0 1 2 3 4 km

Data Source: OS, LUC, RHDHV

Drawing Title

# Designated Landscapes

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |
| | | | | |
| | | | | |
| | | | | |

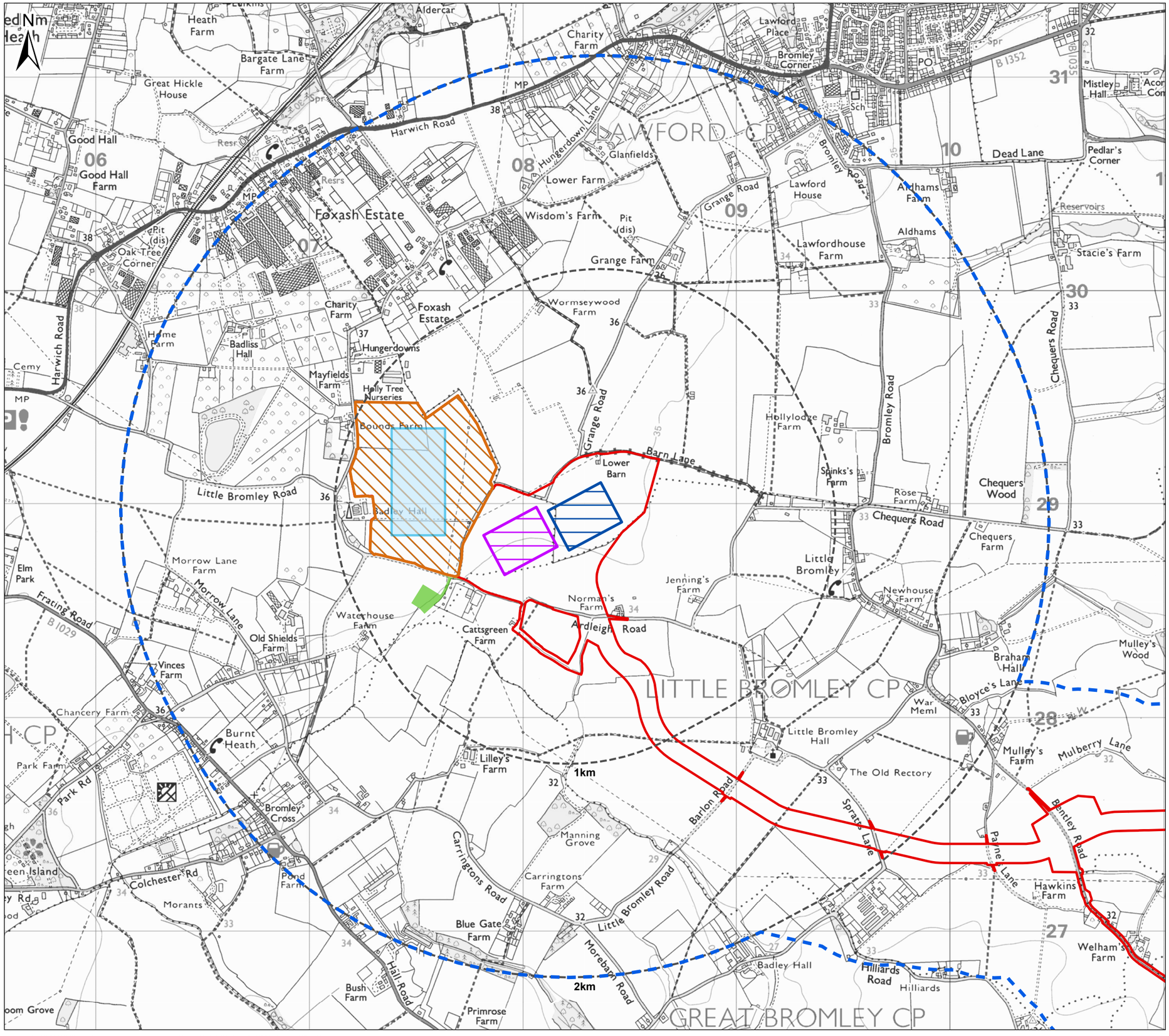
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0043 | 30.1.4 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:65,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
*Offshore Wind Farm*

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




**Legend**

- North Falls Onshore Project Area
- North Falls Substation Operational Footprint
- LVIA Study Area
- Substation Operational Footprint 1km Interval Buffer
- Indicative National Grid Substation Location
- Norwich to Tilbury Substation Zone
- Five Estuaries Substation Operational Footprint
- Little Bromley BESS

0 0.5 1 km

Data Source: OS, LUC, RHDHV

Drawing Title

# Onshore Cumulative Projects

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 10/11/2023 | First issue | RW | JN |
| | | | | |
| | | | | |
| | | | | |

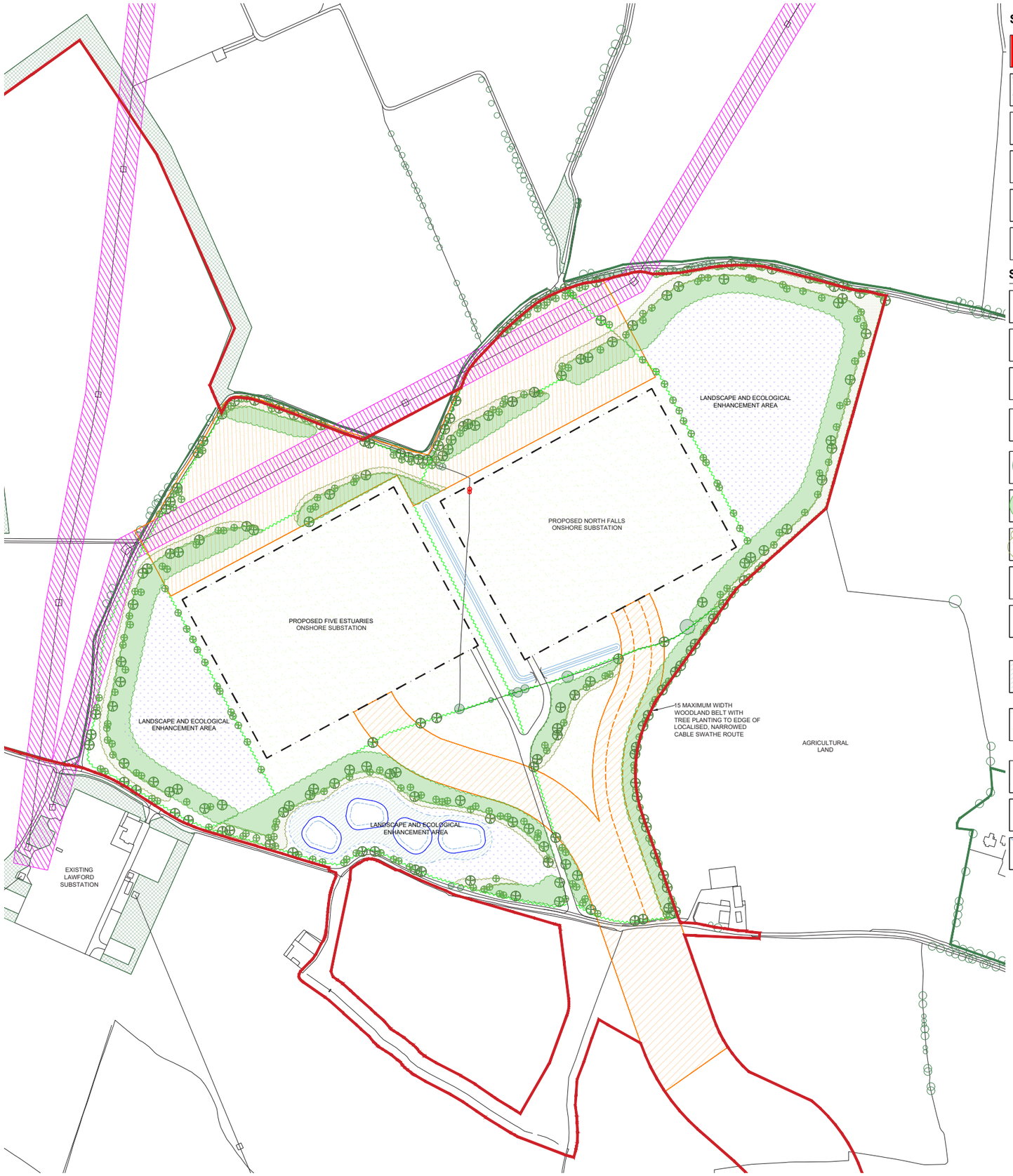
| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0044 | 30.1.5 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:18,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
*Offshore Wind Farm*

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx




## Site

- **Onshore Project Area**
- **Onshore Substation Operational Boundary**
  Final location of buildings and structures within this area to be determined post-DCO approval
- **Existing Overhead Power Routes**
  30m easement to be maintained clear of tree planting
- **Cable Route Requirements for Construction**
  Final location of cable route within this area to be determined post-DCO approval.
  No tree planting to take place within this zone (refer to notes for any exceptions)
- **Potential Buried Cable Locations**
  Localised reduction in cable swathe corridor with to allow screening planting
- **Proposed Indicative Access Route**
  Indicative shared vehicle access route.
  Final location to be determined post-DCO approval.

## Soft landscape

- **Existing Trees**
  To be retained
- **Existing Trees**
  To be removed to facilitate creation of onshore substation platform.
  Trees to be mitigated through compensation planting of scattered trees within proposed hedgerow to north.
- **Proposed Native Trees**
  To create age structure within new woodland planting and enhance screening effect in Years 1-15.
  Extra Heavy Standards; 18-20 cm girth, 4.0-5.0m height, clear stem 2.0m.
- **Proposed Native Trees**
  To create age structure within new woodland planting and enhance screening effect in Years 1-15.
  Selected Standards; 10-12 cm girth, 3.0-3.5m height, clear stem 1.75-2.0m.
- **Existing Off-Site Woodland**
  To be retained
- **Proposed Native Woodland Mix**
  To provide screening of onshore substation buildings and structures. Minimum 20m width, unless indicated.
- **Proposed Native Woodland Edge Mix**
  To provide screening of onshore substation buildings and structures. Minimum 10m width, unless indicated.
- **Existing Hedgerow**
  To be retained and allowed to thicken up, with additional native hedge planting to infill localised gaps
- **Proposed Native Hedge Planting**
  To provide low level screening to visual receptors using roads and the Public Rights of Way, reinstate lost field boundaries and enhance landscape character, provide green infrastructure connectivity, additional habitat for nesting birds and connectivity for commuting/ foraging bats to the wider landscape.
- **Emergent / Marginal Planting**
  To Landscape and Ecology Enhancement Area to favour amphibians and invertebrates use of ponds.
  Final extent and specification of planting to suit detailed design of ponds and be determined post-DCO approval
- **Proposed Neutral Grassland**
  To areas outside Landscape and Ecology Enhancement areas. To provide enhancement from existing arable seed crops habitat.
  Final location of seeding within onshore substation operational boundary to be determined post-DCO approval to suit detailed site layout.
- **Proposed Lowland Meadow**
  To Landscape and Ecology Enhancement areas. to provide habitat and nectar sources for invertebrates.
- **Attenuation Ponds**
  Extent and location to be determined post-DCO approval
- **Ditch Reinstatement**
  Reinstatement of existing ditch running through centre of site.
  Extent to be determined post-DCO approval.
  Additional compensation may be required elsewhere within the site.

### General Note

Planting locations are based on the agreed design parameters at the time of the DCO application and are therefore indicative only, following the principles set out in the Outline Landscape and Ecological Management Strategy.
.Detailed layout of the onshore substations, positioning of cables within identified cable routes and alignment of the access road to be subject to detailed design, post-consent. These will inform the detailed mitigation proposals.

Scale 1:5000

0 50 100

Data Source: OS, LUC, RHDHV

Drawing Title

# Landscape Mitigation Plan

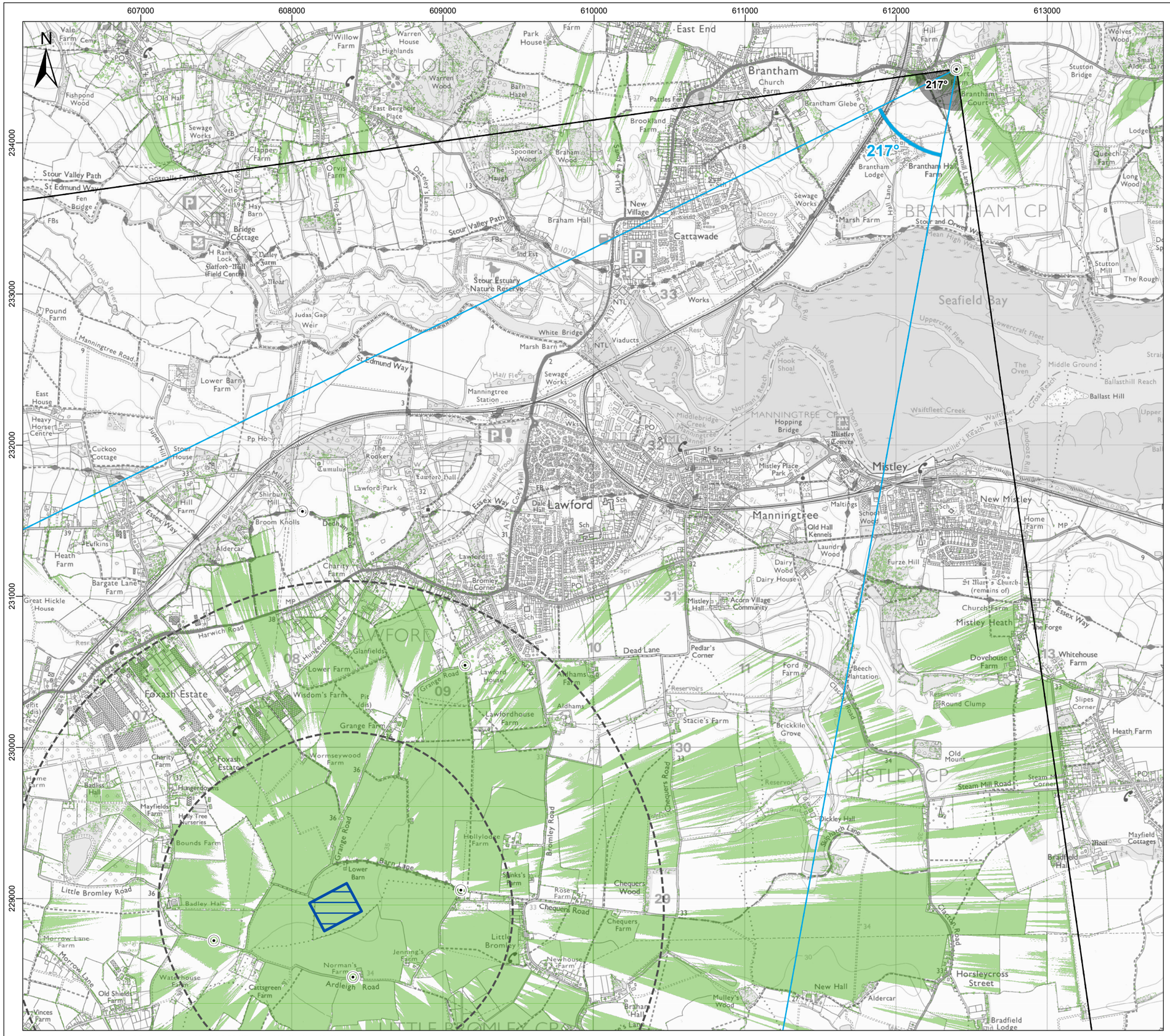
| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 01 | 21/06/24 | First Issue | TJA | CO |
| 02 | 27/06/24 | Second Issue | TJA | CO |
| | | | | |
| | | | | |

| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0045 | 30.1.6 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:1000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
Offshore Wind Farm




## Legend

- North Falls Substation Operational Footprint
- Substation Operational Footprint 1km Interval Buffer
- Theoretical Visibility of Substation Components
- Viewpoint
- 53.5° Field of View
- 90° Field of View

**Notes**

The ZTV is calculated to a height of 18m (lightning masts) for the substation operational footprint, from a viewing height of 1.5m above ground level.

The digital surface model (DSM) used is LIDAR 1m (2022) data (obtained from DEFRA in December 2023). A DSM includes a surface model of trees, buildings and hedges. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.2 software.

0 1 1 km

Data Source: OS, LUC, RHDHV

Drawing Title

**Viewpoint 1 - Court Farm Stutton Road**

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 03 | 12/12/2022 | Third issue | RW | JN |
| 02 | 14/11/2022 | Second Issue | RW | JN |
| 01 | 28/09/2022 | First issue | RW | JN |
| | | | | |

| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0045 | 30.2.1 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:25,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS Offshore Wind Farm

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx


LUC

| | |
|---|---|
| OS reference: | 612400 E 234489 N |
| AOD (Above Ordnance Datum): | 34.8 m |
| Direction of view: | 217° |
| Distance to proposed substation : | 6.76 km |

| | |
|---|---|
| Horizontal field of view: | 90° (cylindrical projection) |
| Vertical field of view: | 27° |
| Paper size: | 841 x 297 mm (half A1) |
| Correct printed image size: | 820 x 250 mm |

| | |
|---|---|
| Camera: | NIKON D750 |
| Lens: | Nikkor AF 50mm f/1.8D |
| Camera height: | 1.5 m (above AOD) |
| Date and time: | 11/01/2023 09:10 |

**North Falls - Onshore Substation**

**Figure: 30.2.1a**

**Viewpoint 1: Court Farm Stutton Rd**


LUC

| | |
|---|---|
| OS reference: | 612400 E 234489 N |
| AOD (Above Ordnance Datum): | 34.8 m |
| Direction of view: | 217° |
| Distance to proposed substation : | 6.76 km |

| | |
|---|---|
| Horizontal field of view: | 90° (cylindrical projection) |
| Vertical field of view: | 27° |
| Paper size: | 841 x 297 mm (half A1) |
| Correct printed image size: | 820 x 250 mm |

| | |
|---|---|
| Camera: | NIKON D750 |
| Lens: | Nikkor AF 50mm f/1.8D |
| Camera height: | 1.5 m (above AOD) |
| Date and time: | 18/05/2022 09:12 |

**North Falls - Onshore Substation**

**Figure: 30.2.1b**

**Viewpoint 1: Court Farm Stutton Rd**


LUC

| | |
|---|---|
| OS reference: | 612400 E 234489 N |
| AOD (Above Ordnance Datum): | 34.8 m |
| Direction of view: | 217° |
| Distance to proposed substation : | 6.76 km |

| | |
|---|---|
| Horizontal field of view: | 90° (cylindrical projection) |
| Vertical field of view: | 27° |
| Paper size: | 841 x 297 mm (half A1) |
| Correct printed image size: | 820 x 250 mm |

| | |
|---|---|
| Camera: | NIKON D750 |
| Lens: | Nikkor AF 50mm f/1.8D |
| Camera height: | 1.5 m (above AOD) |
| Date and time: | 18/05/2022 09:12 |

**North Falls - Onshore Substation**

**Figure: 30.2.1c**

**Viewpoint 1: Court Farm Stutton Rd**


LUC

| | |
|---|---|
| OS reference: | 612400 E 234489 N |
| AOD (Above Ordnance Datum): | 34.8 m |
| Direction of view: | 217° |
| Distance to proposed substation : | 6.76 km |

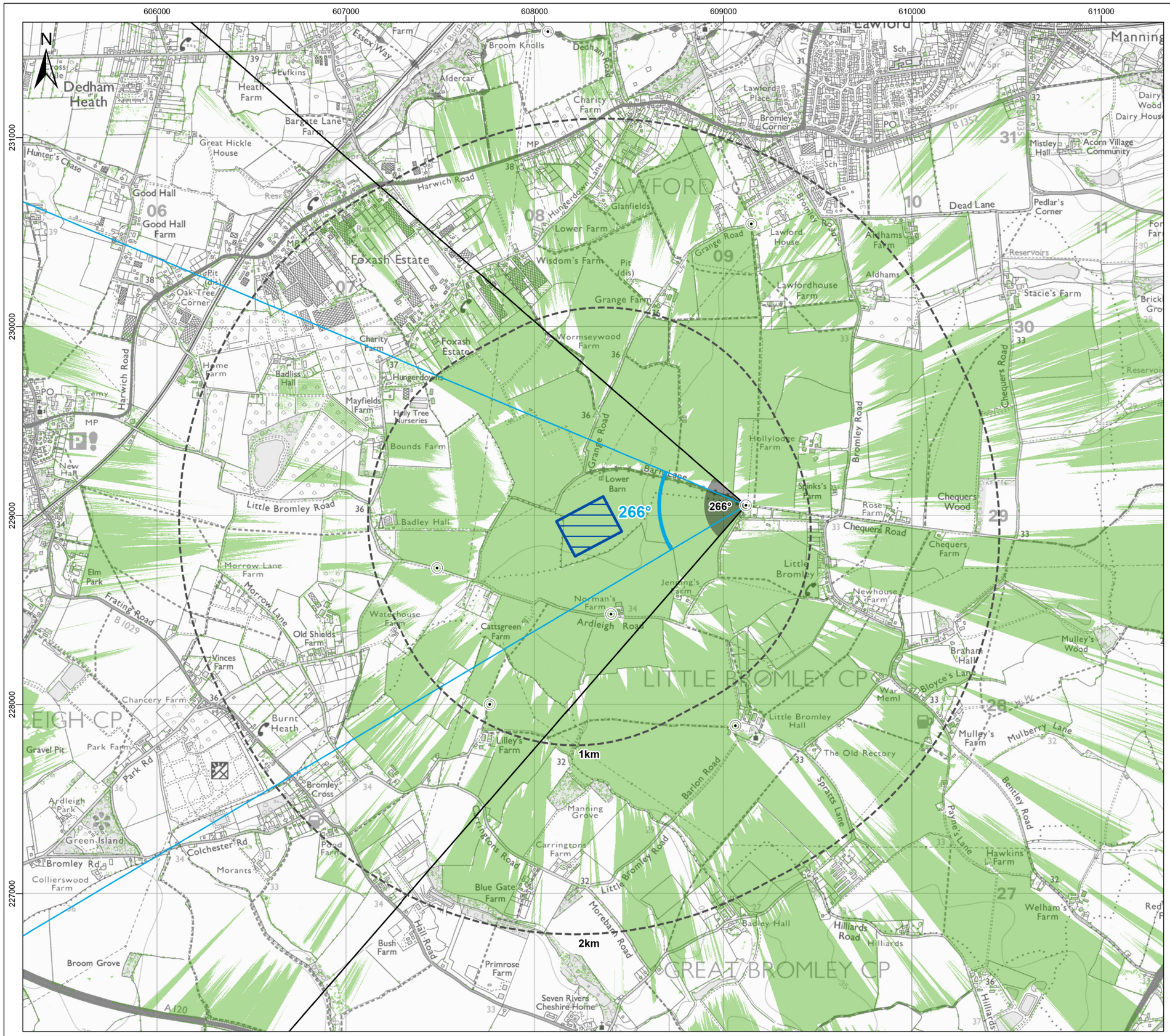
| | |
|---|---|
| Horizontal field of view: | 53.5° (planar projection) |
| Vertical field of view: | 18.2° |
| Paper size: | 841 x 297 mm (half A1) |
| Correct printed image size: | 820 x 250 mm |

| | |
|---|---|
| Camera: | NIKON D750 |
| Lens: | Nikkor AF 50mm f/1.8D |
| Camera height: | 1.5 m (above AOD) |
| Date and time: | 18/05/2022 09:12 |

**North Falls - Onshore Substation**

**Figure: 30.2.1d**

**Viewpoint 1: Court Farm Stutton Rd**




## Legend

- North Falls Substation Operational Footprint
- Substation Operational Footprint 1km Interval Buffer
- Theoretical Visibility of Substation Components
- Viewpoint
- 53.5° Field of View
- 90° Field of View

**Notes**

The ZTV is calculated to a height of 18m (lightning masts) for the substation operational footprint, from a viewing height of 1.5m above ground level.

The digital surface model (DSM) used is LIDAR 1m (2022) data (obtained from DEFRA in December 2023). A DSM includes a surface model of trees, buildings and hedges. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.2 software.

0 1 1 km

Data Source: OS, LUC, RHDHV

Drawing Title

**Viewpoint 2 - Bridleway at Barn Lane**

| Rev | Date | Remarks | Drwn | Chkd |
|---|---|---|---|---|
| 03 | 12/12/2022 | Third issue | RW | JN |
| 02 | 14/11/2022 | Second Issue | RW | JN |
| 01 | 28/09/2022 | First issue | RW | JN |
| | | | | |

| Drawing Number | Figure Number |
|---|---|
| PB9244-LUC-ZZ-ON-DR-GS-0046 | 30.2.2 |

| Scale | Plot Size | Datum | Projection |
|---|---|---|---|
| 1:20,000 | A3 | OSGB36 | BNG |

LUC

NORTH FALLS
Offshore Wind Farm

File ref: S:\11300\11328 - North Falls Offshore Wind Farm SLVIA\GIS\PRO\Report\11328_SLVIA\11328_SLVIA.aprx