

Norwich to Tilbury

Volume 6: Environmental Statement

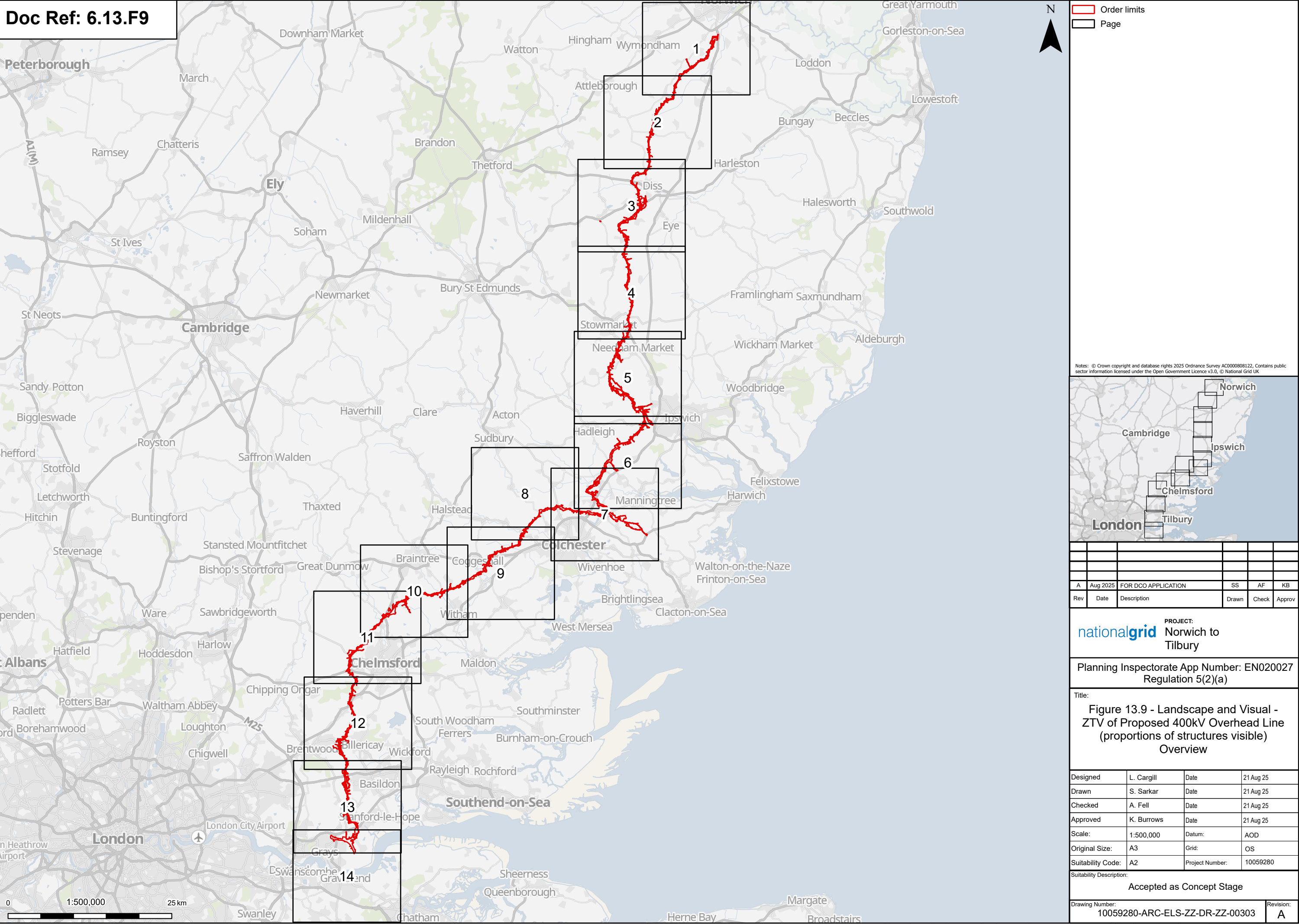
Document: 6.13.F9 Environmental Statement Figure 13.9 - ZTV of Proposed 400kV Overhead Line by Project Section
(proportions of structures visible version)

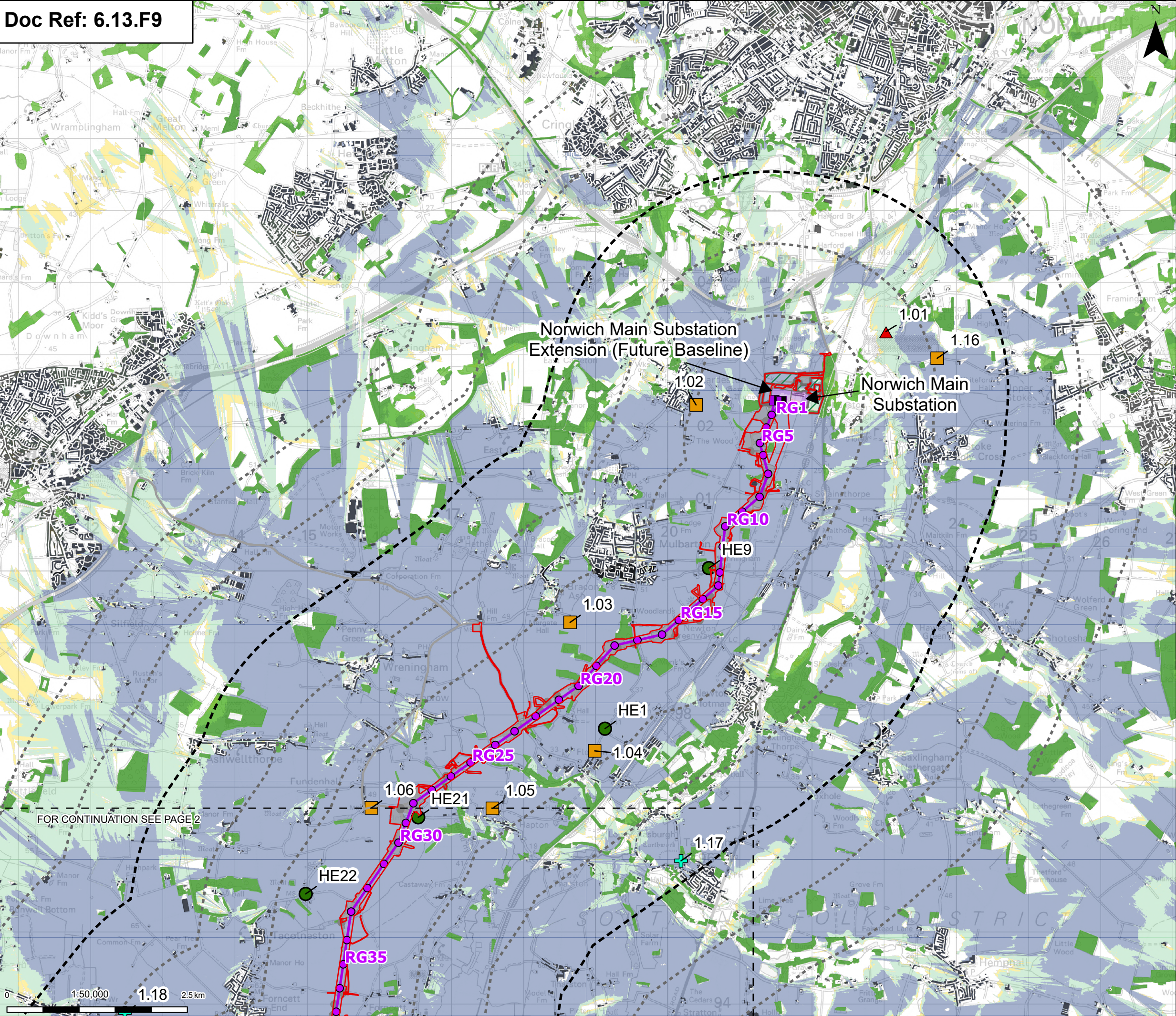
Final Issue A

August 2025

Planning Inspectorate Reference: EN020027

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 Regulation 5(2)(a)





Order limits

Sheet index outline

Proposed full line tension gantry

Proposed standard lattice pylon location

Proposed overhead line alignment

Norwich Main Substation

Norwich Main Substation Extension (future baseline)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

1 km buffer

2 km buffer

4 km buffer

5 km buffer

LVIA Study Area

ES landscape and visual viewpoint (baseline photo only)

ES landscape and visual viewpoint (photomontage)

ES landscape and visual viewpoint (wires only)

Heritage viewpoints

Buildings

Woodland

Proportional ZTV showing visibility of a pylon

Top of structure is theoretically visible

Top half of structure is theoretically visible

Full structure is theoretically visible

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2). The ZTV indicates the theoretical visibility of the project from a viewing height of 2m above ground level. The terrain model is based on LiDAR 2m digital terrain model (DTM) data (obtained from Defra in December 2024), edited to create an indicative digital surface model (DSM), incorporating existing buildings (OS VMD building data) and existing woodland (Forestry Commission NFI 2023 data, categories assumed woodland, broadleaved, conifer, mixed mainly broadleaved and mixed mainly conifer). Hedgerows have not been modelled and proposed mitigation planting around the CSE compounds, Norwich Main Substation, EACN substation and Tilbury North Substation has not been taken into account. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.4.0 software.

A	Aug 2025	FOR DCO APPLICATION	SS	AF	KB
Rev	Date	Description	Drawn	Check	Approv

PROJECT:
nationalgrid Norwich to
Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure 13.9 - Landscape and Visual -
ZTV of Proposed 400kV Overhead Line
(proportions of structures visible)
Page 1 of 14

Designed	L. Cargill	Date	21 Aug 25
Drawn	S. Sarkar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

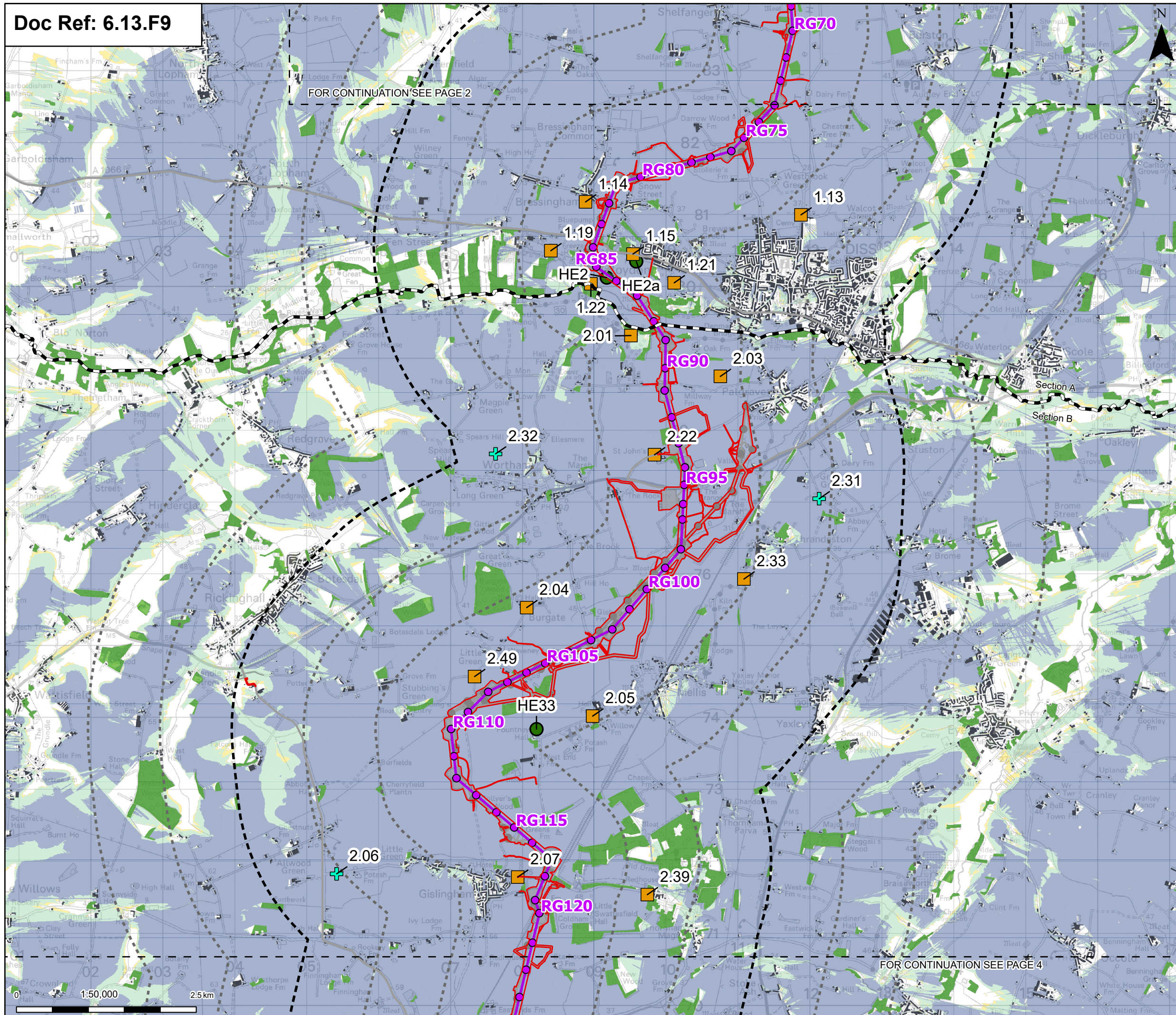
Drawing Number:	10059280-ARC-ELS-ZZ-DR-ZZ-00303	Revision:	A
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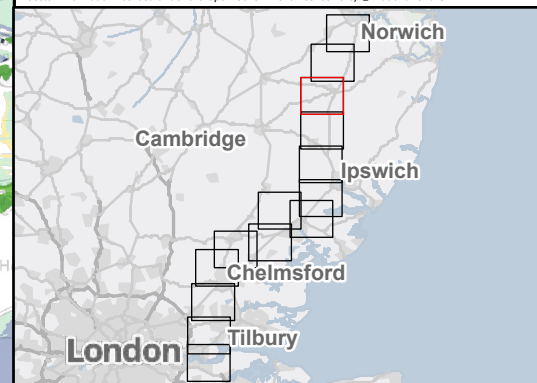
FOR CONTINUATION SEE PAGE 4



-
- Proposed project design details**
- Order limits
 - Sheet index outline
 - Project section line
 - Proposed standard lattice pylon location
 - Proposed overhead line alignment
 - Environmental mitigation
 - Other temporary and permanent construction and operational works
- Discipline specific constraints**
- 1 km buffer
 - 2 km buffer
 - 4 km buffer
 - 5 km buffer
 - LVIA Study Area
 - ES landscape and visual viewpoint (photomontage)
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Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

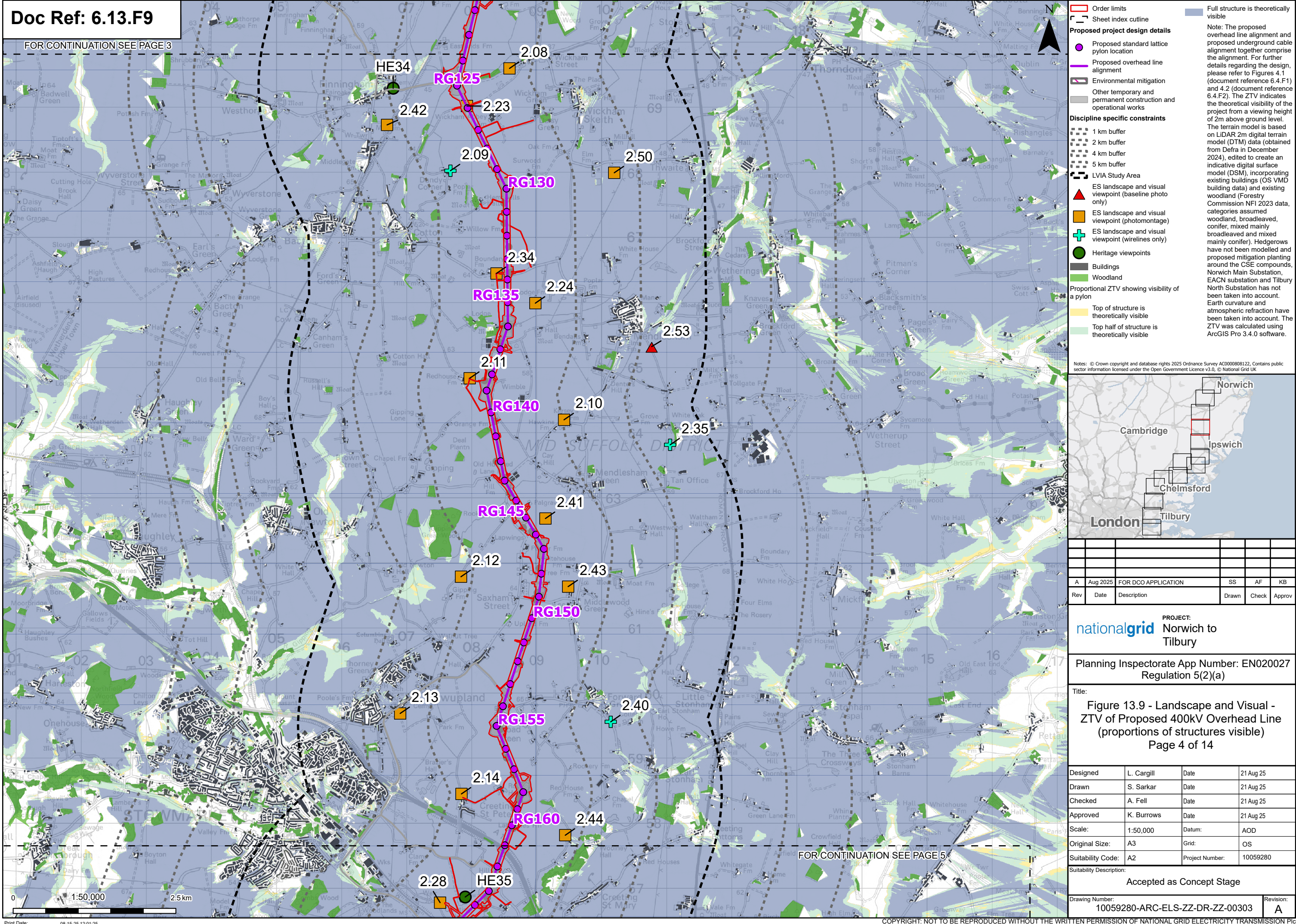
Title: Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
Page 3 of 14

Designed	L. Cargill	Date	21 Aug 25
Drawn	S. Sarkar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Accepted as Concept Stage

Drawing Number: 10059280-ARC-ELS-ZZ-DR-ZZ-00303

Revisio	A
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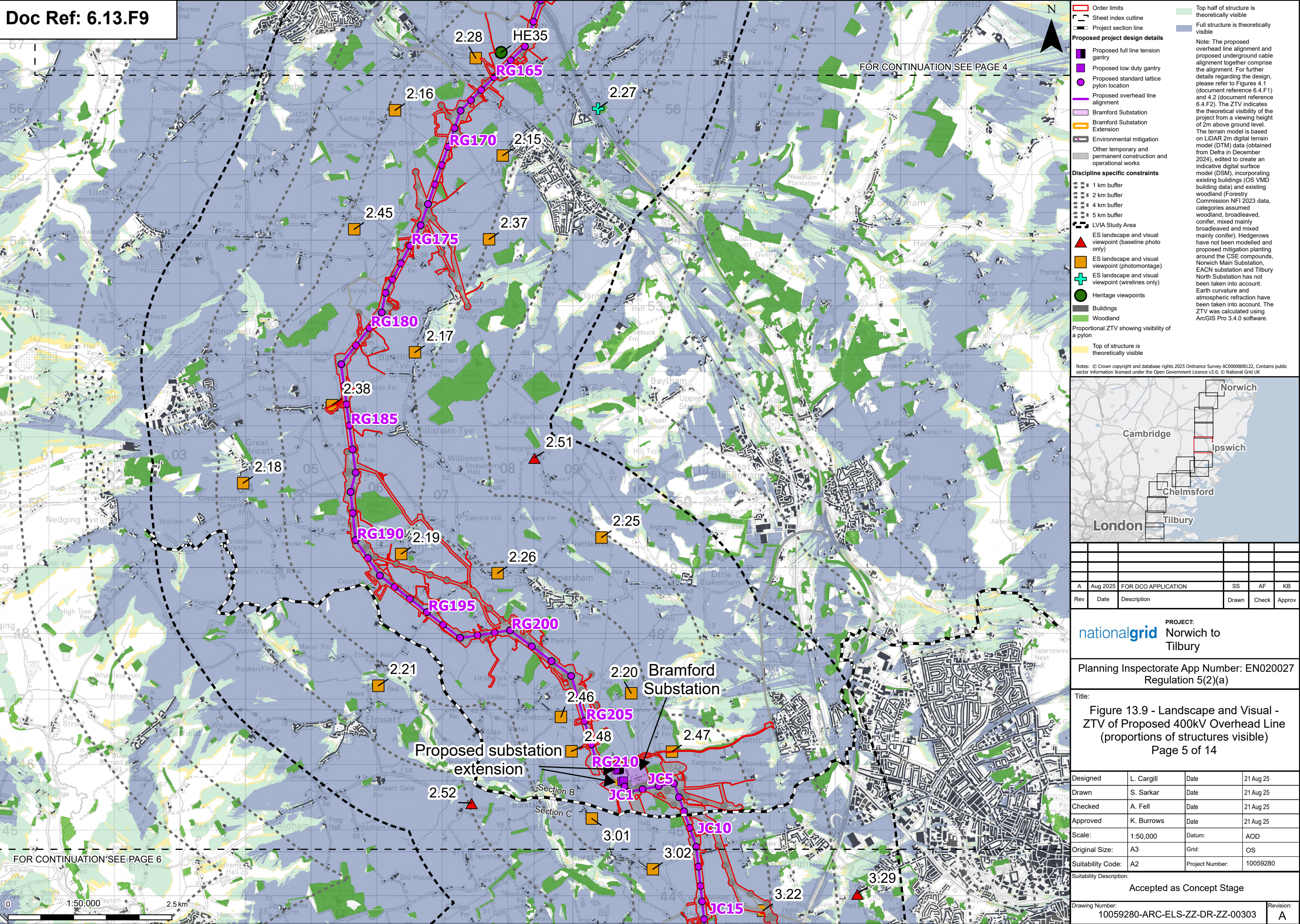
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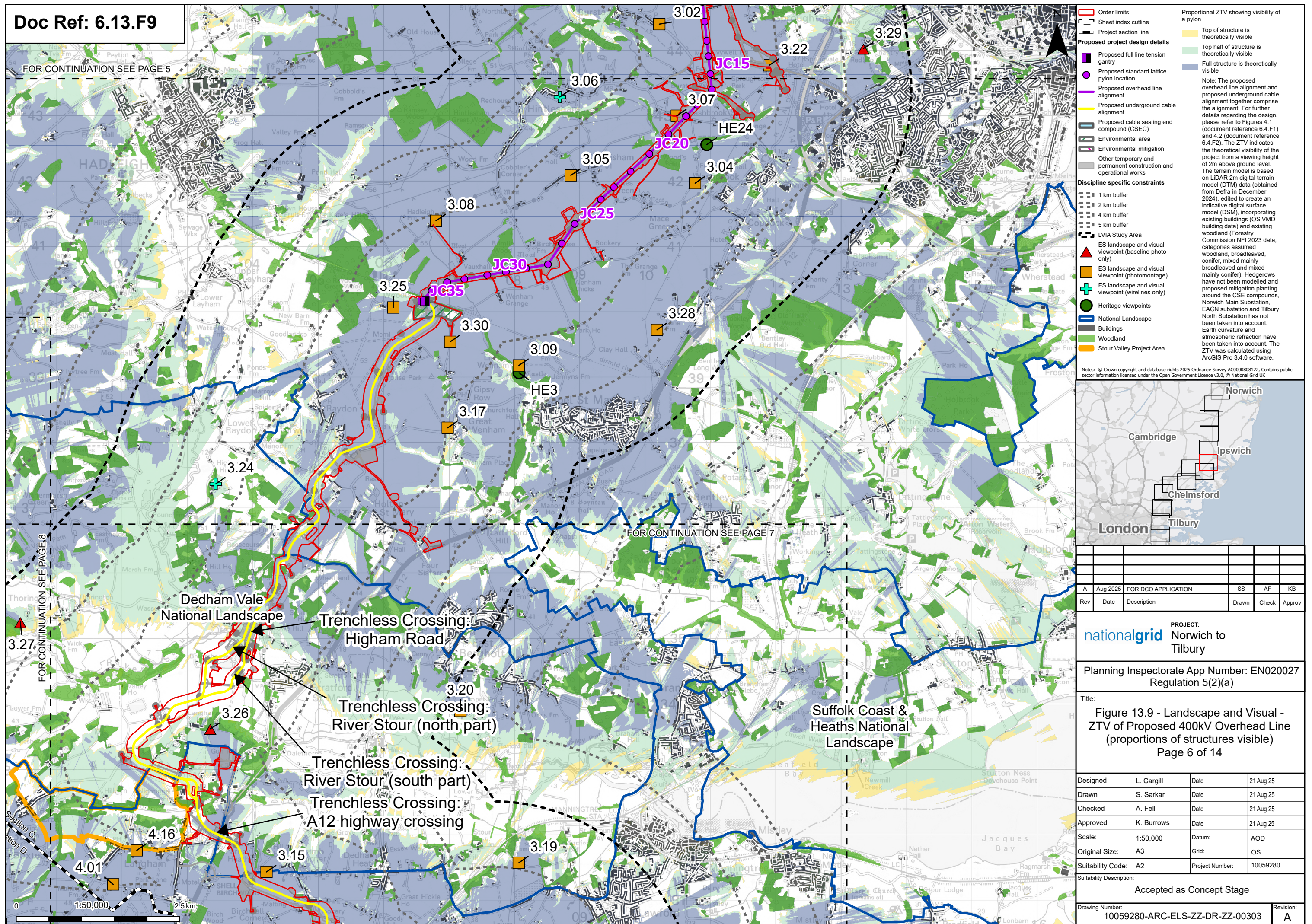
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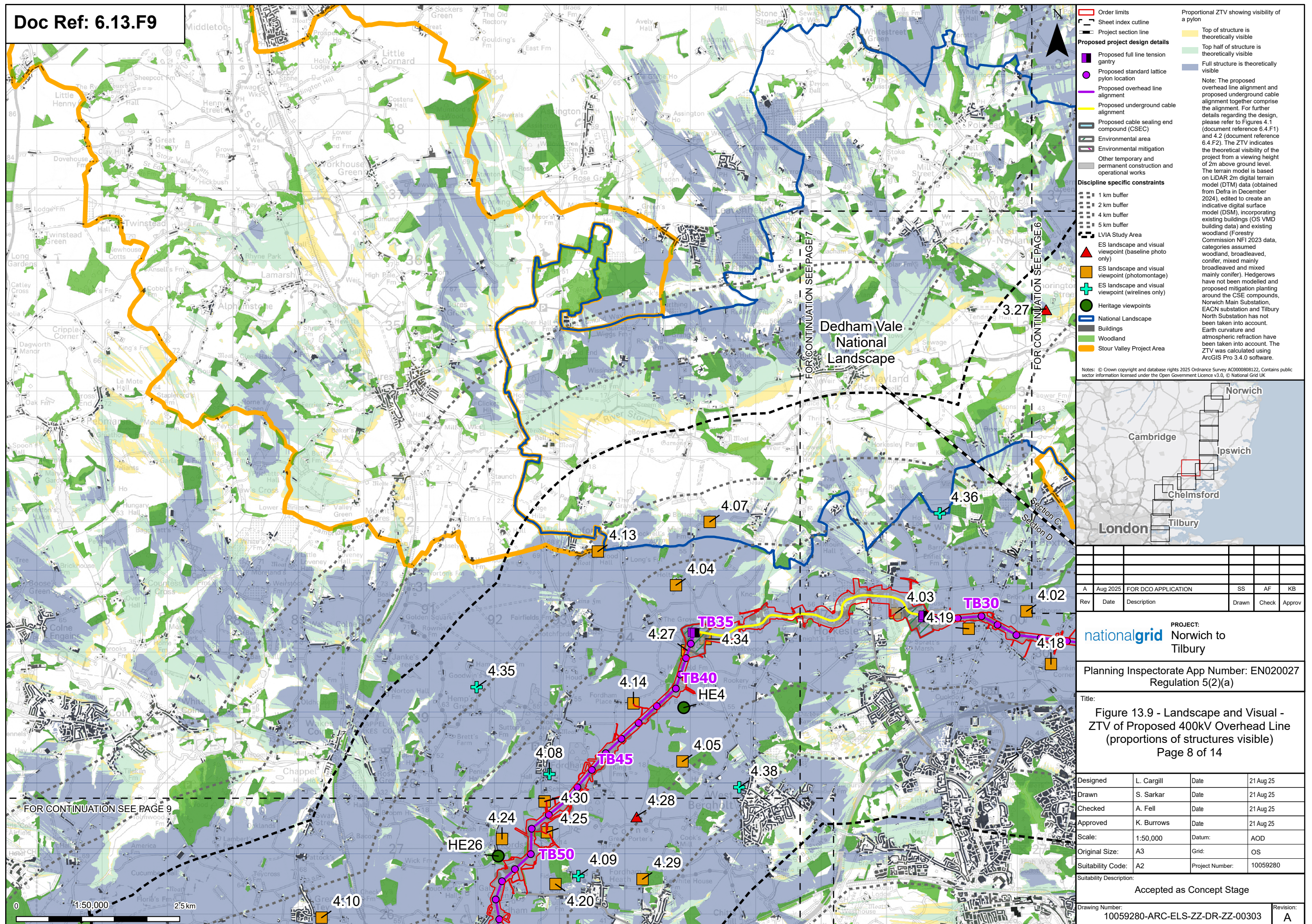
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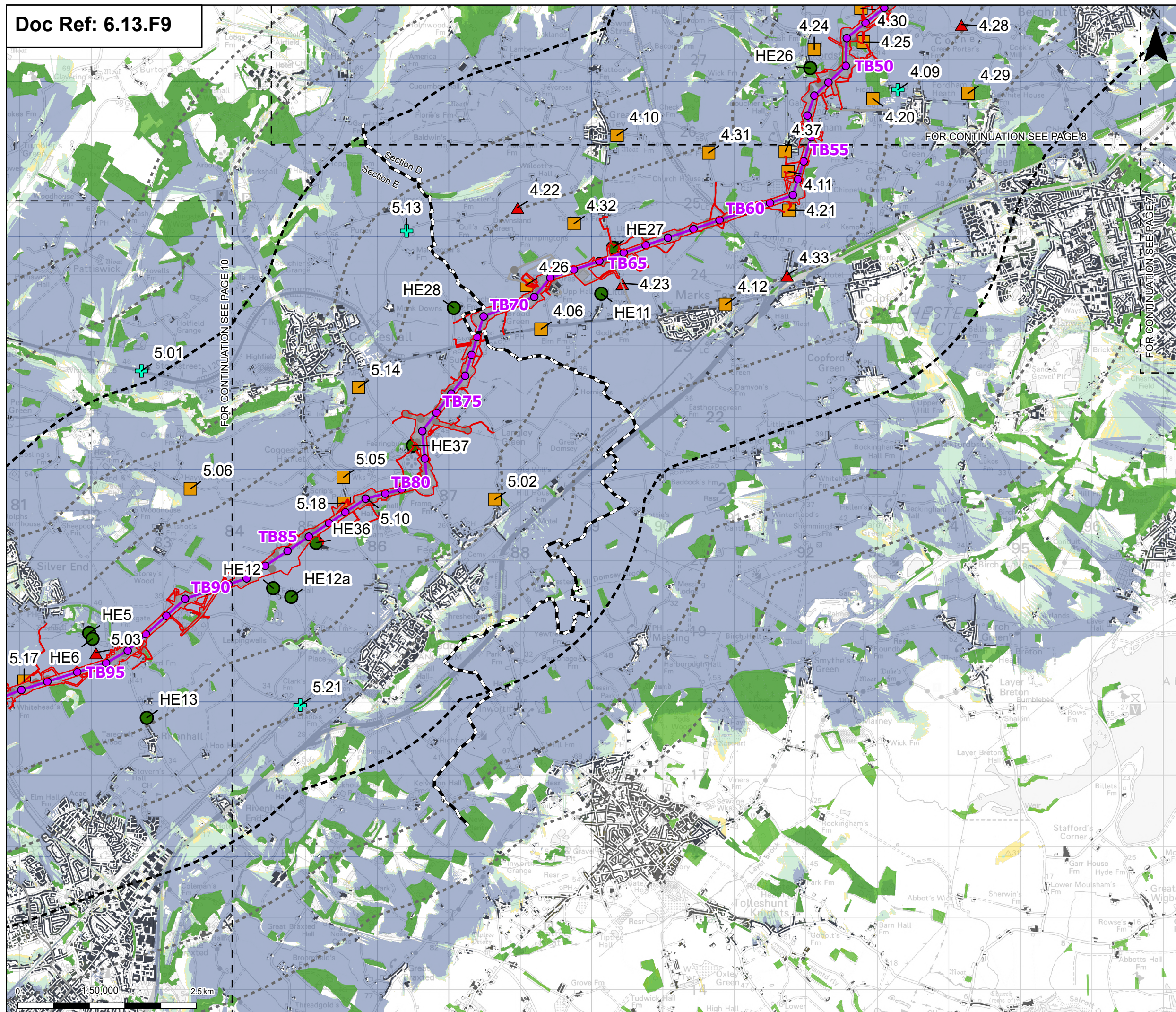


FOR CONTINUATION SEE PAGE 5









Order limits

Sheet index outline

Project section line

Proposed project design details

- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Environmental mitigation
- Other temporary and permanent construction and operational works

Discipline specific constraints

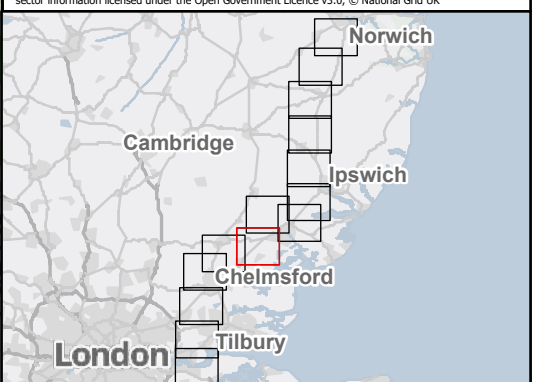
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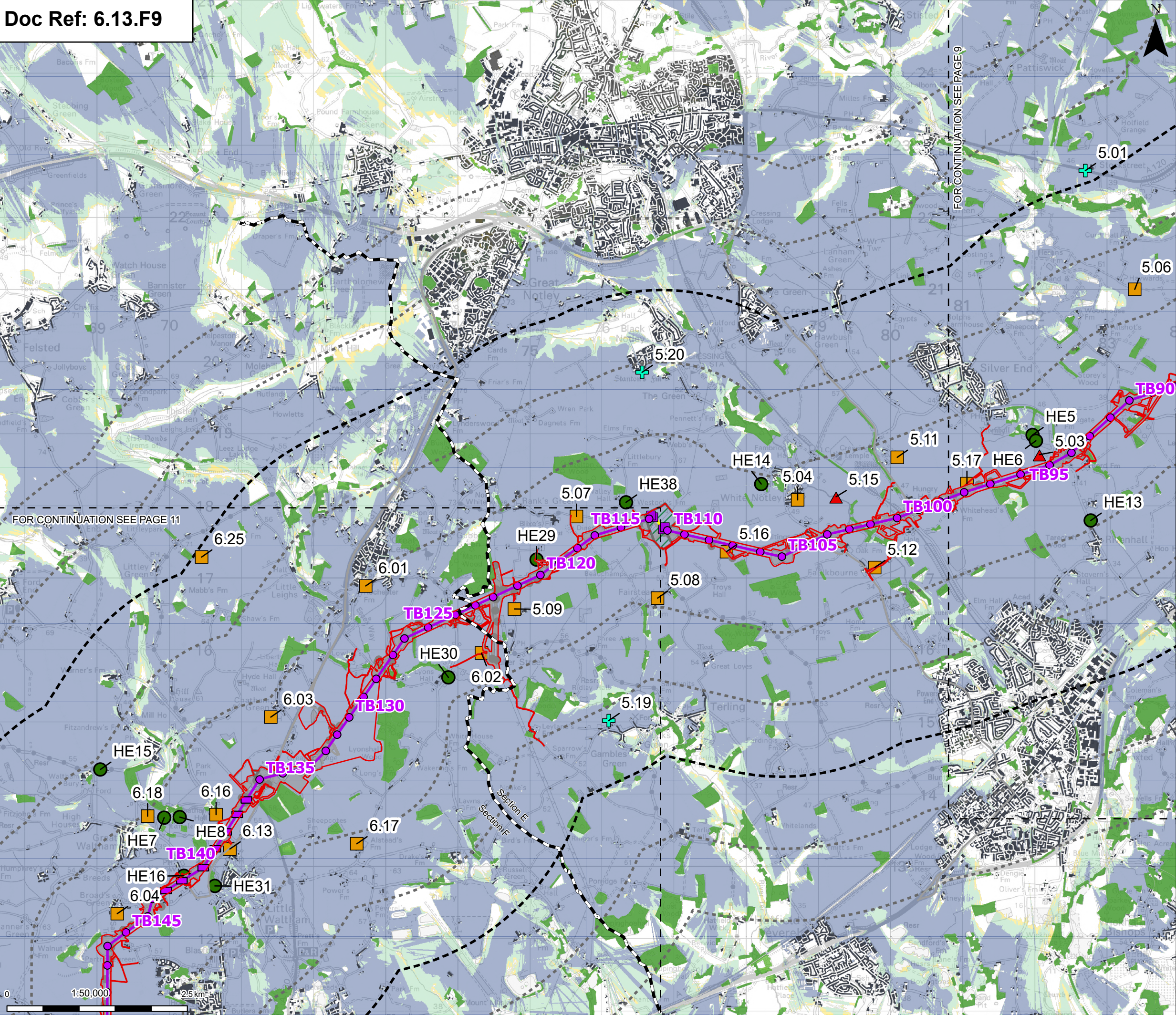
Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title: Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
Page 9 of 14

Designed	L. Cargill	Date	21 Aug 25
Drawn	S. Sarkar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
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Scale:	1:50,000	Datum:	AOD
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Suitability Code:	A2	Project Number:	10059280

Accepted as Concept Stage

Drawing Number: 10059280-ARC-ELS-ZZ-DR-ZZ-00303	Revision: A
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Order limits

Sheet index cutline

Project section line

Proposed low duty gantry

Proposed low height pylon location

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

1 km buffer

2 km buffer

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Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
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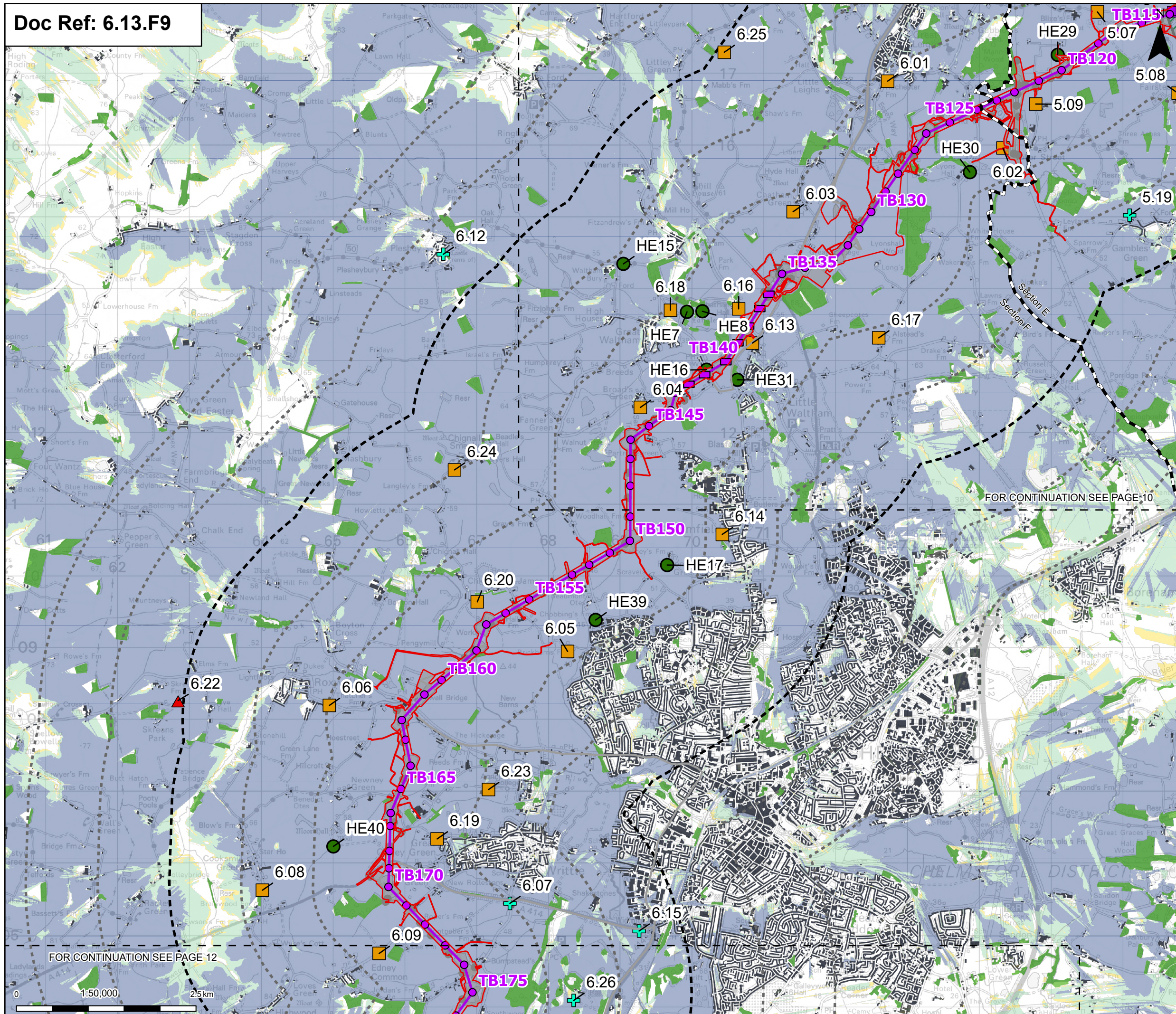
Designed	L. Cargill	Date	21 Aug 25
Drawn	S. Sarkar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:50,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

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Drawing Number:
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Revision:
A

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Project section line

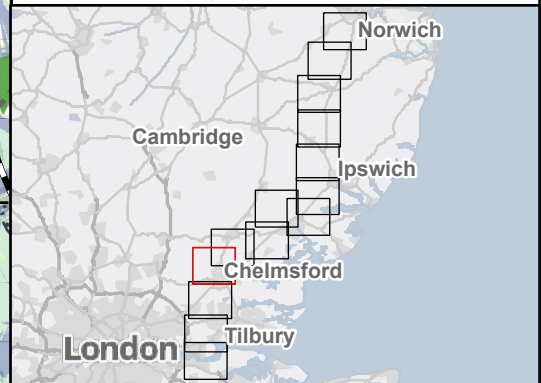
Proposed project design details
Proposed low duty gantry
Proposed low height pylon location
Proposed standard lattice pylon location
Proposed overhead line alignment
Proposed underground cable alignment
Proposed cable sealing end compound (CSEC)
Environmental area
Environmental mitigation
Other temporary and permanent construction and operational works

Discipline specific constraints
1 km buffer
2 km buffer
4 km buffer
5 km buffer
LVIA Study Area
ES landscape and visual viewpoint (baseline photo only)
ES landscape and visual viewpoint (photomontage)
ES landscape and visual viewpoint (wires only)
Heritage viewpoints
Buildings
Woodland

Proportional ZTV showing visibility of a pylon
Top of structure is theoretically visible
Top half of structure is theoretically visible
Full structure is theoretically visible

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2). The ZTV indicates the theoretical visibility of the project from a viewing height of 2m above ground level. The terrain model is based on LiDAR 2m digital terrain model (DTM) data (obtained from Defra in December 2024), edited to create an indicative digital surface model (DSM), incorporating existing buildings (OS VMD building data) and existing woodland (Forestry Commission NFI 2023 data, categories assumed woodland, broadleaved, conifer, mixed mainly broadleaved and mixed mainly conifer). Hedgerows have not been modelled and proposed mitigation planting around the CSE compounds, Norwich Main Substation, EACN substation and Tilbury North Substation has not been taken into account. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.4.0 software.

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PROJECT:
nationalgrid Norwich to Tilbury

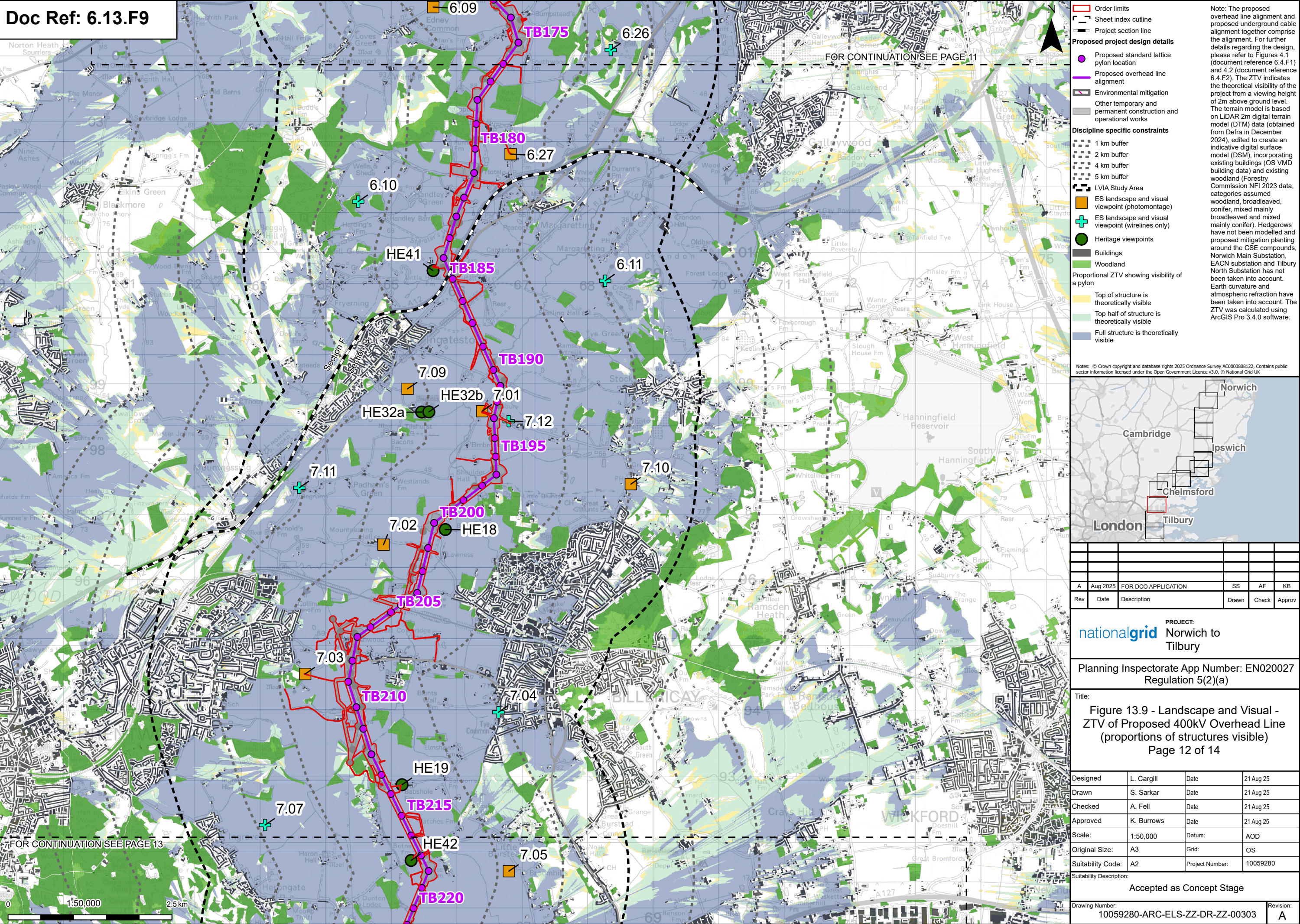
Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

Title:
Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
Page 11 of 14

Designed	L. Cargill	Date	21 Aug 25
Drawn	S. Sarkar	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

Suitability Description:
Accepted as Concept Stage

Drawing Number:	10059280-ARC-ELS-ZZ-DR-ZZ-00303	Revision:	A
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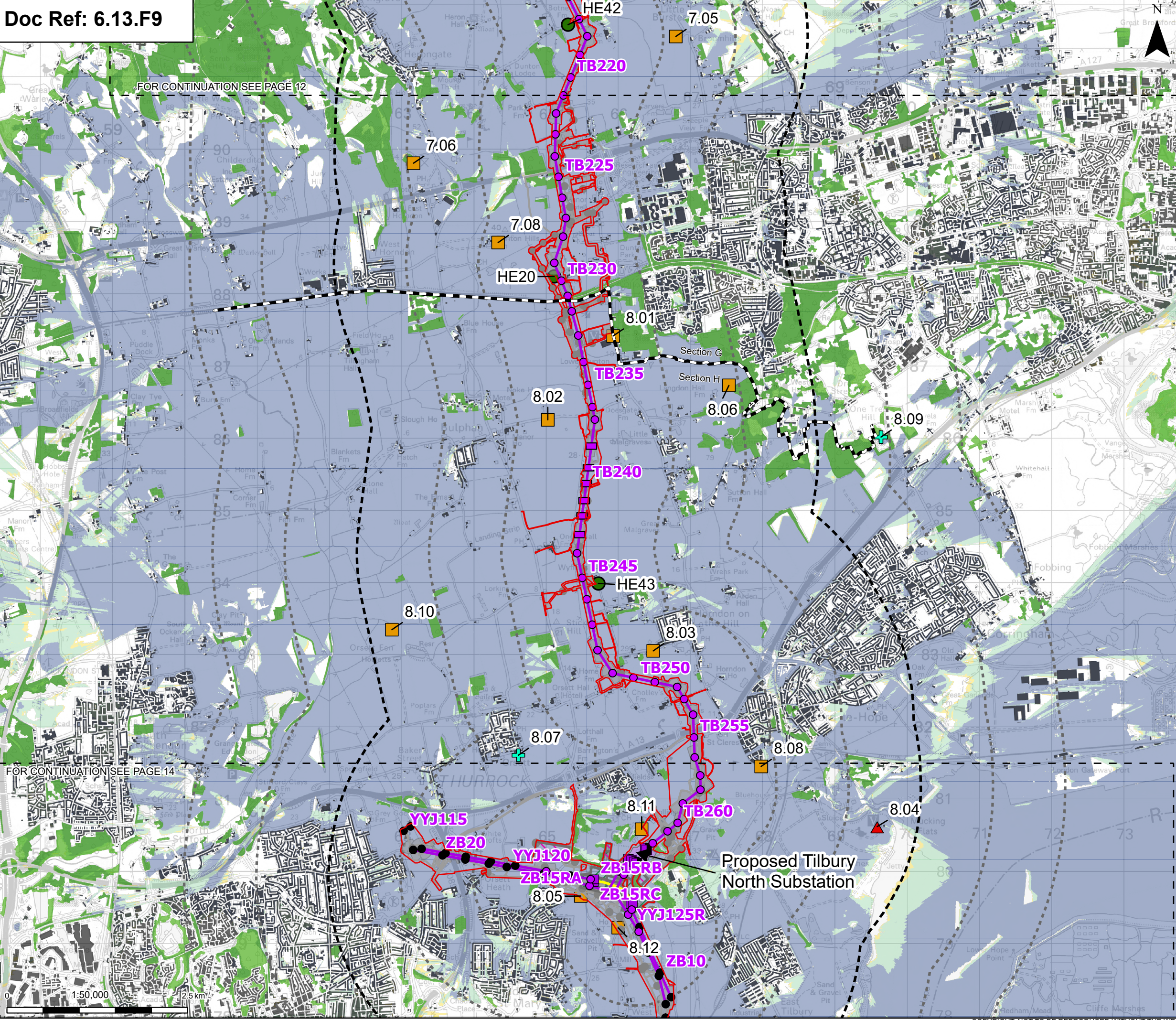


FOR CONTINUATION SEE PAGE 12

FOR CONTINUATION SEE PAGE 14

0 1:50,000 2.5 km

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Order limits

Sheet index outline

Project section line

Proposed full line tension gantry

Proposed low duty gantry

Proposed low height pylon location

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed Tilbury North Substation

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Existing pylon (modify)

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

1 km buffer

2 km buffer

4 km buffer

5 km buffer

LVIA Study Area

ES landscape and visual viewpoint (baseline photo only)

ES landscape and visual viewpoint (photomontage)

ES landscape and visual viewpoint (wires only)

Heritage viewpoints

Buildings

Woodland

Proportional ZTV showing visibility of a pylon

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2). The ZTV indicates the theoretical visibility of the project from a viewing height of 2m above ground level. The terrain model is based on LiDAR 2m digital terrain model (DTM) data (obtained from Defra in December 2024), edited to create an indicative digital surface model (DSM), incorporating existing buildings (OS VMD building data) and existing woodland (Forestry Commission NFI 2023 data, categories assumed woodland, broadleaved, conifer, mixed mainly broadleaved and mixed mainly conifer). Hedgerows have not been modelled and proposed mitigation planting around the CSE compounds, Norwich Main Substation, EACN substation and Tilbury North Substation has not been taken into account. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using

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PROJECT:
nationalgrid Norwich to Tilbury

Planning Inspectorate App Number: EN020027
Regulation 5(2)(a)

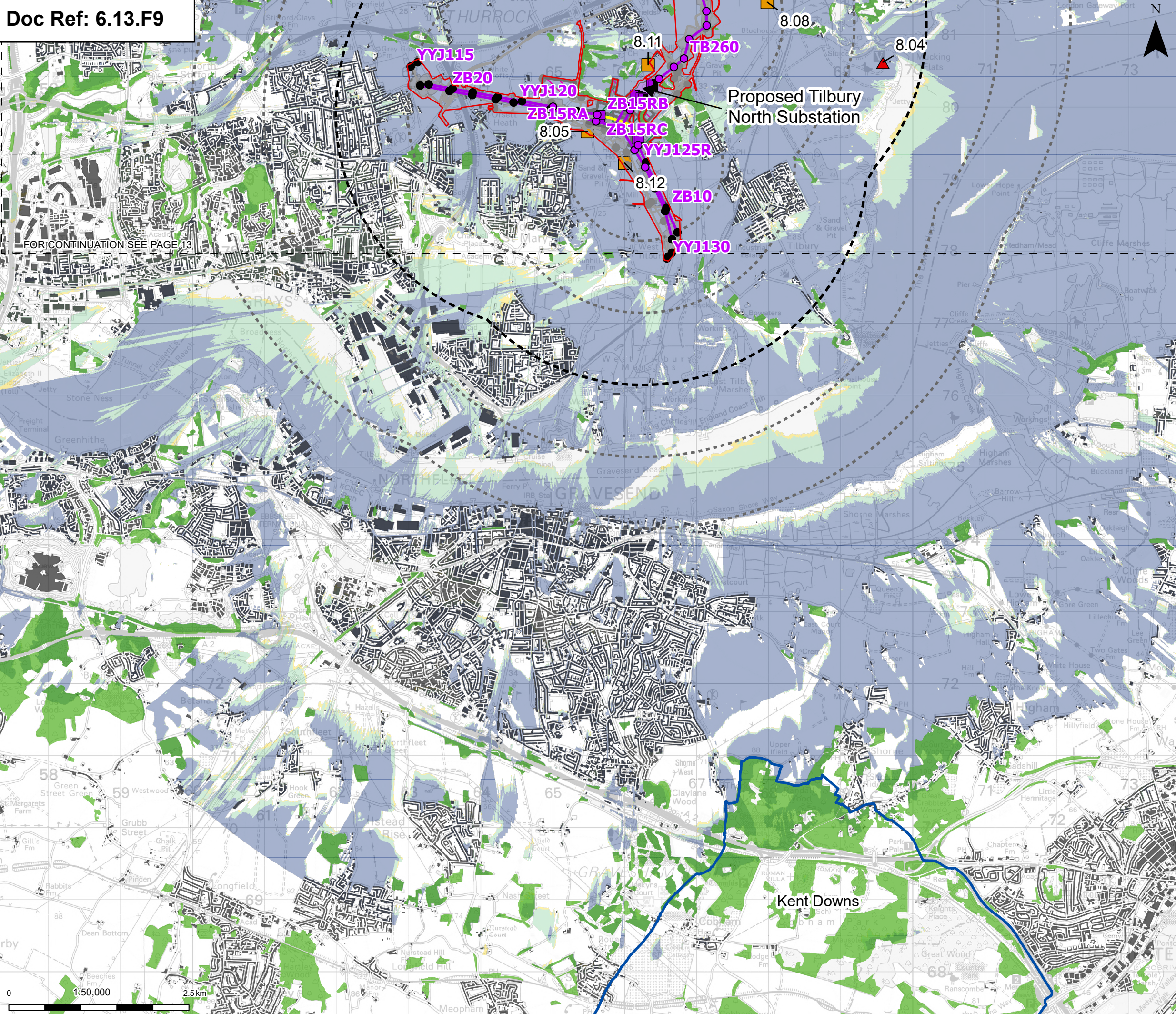
Title:
Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
Page 13 of 14

Designed	L. Cargill	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

Suitability Description:
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Drawing Number:	10059280-ARC-ELS-ZZ-DR-ZZ-00303	Revision:	A
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Order limits

Sheet index cutline

Proposed full line tension gantry

Proposed low duty gantry

Existing pylon (modify)

Proposed standard lattice pylon location

Proposed overhead line alignment

Proposed underground cable alignment

Proposed Tilbury North Substation

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Discipline specific constraints

1 km buffer

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4 km buffer

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LVIA Study Area

ES landscape and visual viewpoint (baseline photo only)

ES landscape and visual viewpoint (photomontage)

National Landscape

Buildings

Woodland

Proportional ZTV showing visibility of a pylon

Top of structure is theoretically visible

Top half of structure is theoretically visible

Full structure is theoretically visible

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the alignment. For further details regarding the design, please refer to Figures 4.1 (document reference 6.4.F1) and 4.2 (document reference 6.4.F2). The ZTV indicates the theoretical visibility of the project from a viewing height of 2m above ground level. The terrain model is based on LiDAR 2m digital terrain model (DTM) data (obtained from Defra in December 2024), edited to create an indicative digital surface model (DSM), incorporating existing buildings (OS VMD building data) and existing woodland (Forestry Commission NFI 2023 data, categories assumed woodland, broadleaved, conifer, mixed mainly broadleaved and mixed mainly conifer). Hedgerows have not been modelled and proposed mitigation planting around the CSE compounds, Norwich Main Substation, EACN substation and Tilbury North Substation has not been taken into account. Earth curvature and atmospheric refraction have been taken into account. The ZTV was calculated using ArcGIS Pro 3.4.0 software.

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nationalgrid

Norwich to Tilbury

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Figure 13.9 - Landscape and Visual - ZTV of Proposed 400kV Overhead Line (proportions of structures visible)
Page 14 of 14

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