

# Norwich to Tilbury

## Volume 6: Environmental Statement

Document: 6.9.F1 Environmental Statement Figure 9.1 - Superficial Geology

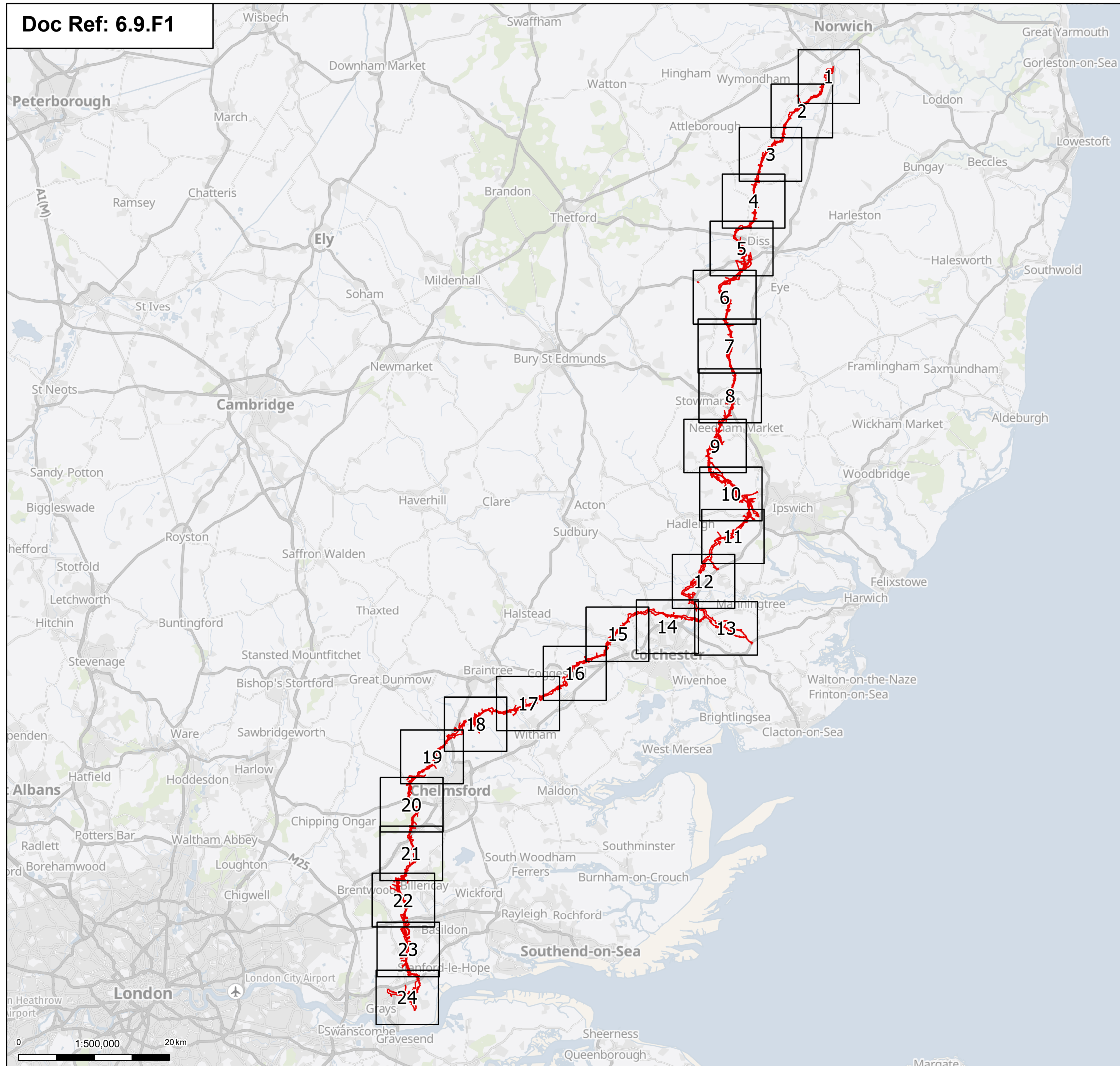
Final Issue A

August 2025

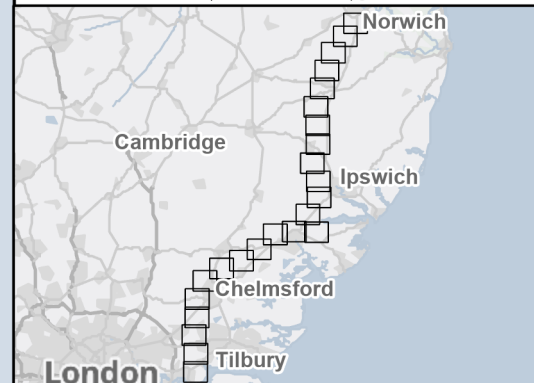
Planning Inspectorate Reference: EN020027

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





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**nationalgrid** PROJECT: Norwich to Tilbury

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

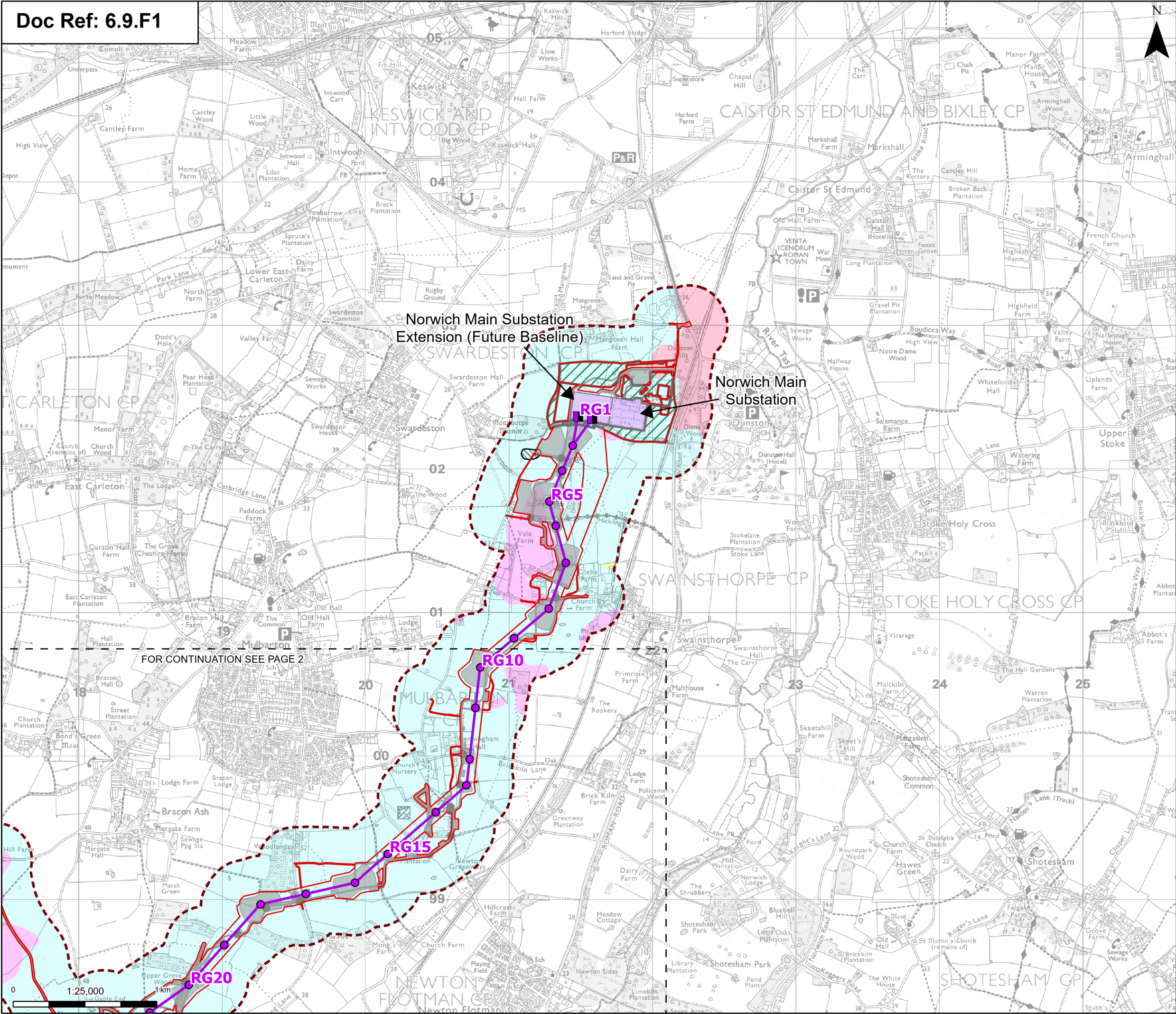
Title: **Figure 9.1 - Contaminated Land,  
Geology and Hydrogeology -  
Superficial Geology  
Overview**

Designed	K. Riley	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:500,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:	Accepted as Concept Stage
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Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00226	Revision: A
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Order limits

Proposed project design details

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

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Made ground (undivided) - artificial deposit

Alluvium - clay, silt, sand and gravel

Happisburgh Glacigenic Formation and Lowestoft Formation (undifferentiated) - sand and gravel

Lowestoft Formation - diamicton

Leet Hill Sand and Gravel Member - sand and gravel

Sheringham Cliffs Formation - sand and gravel

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).

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PROJECT: **nationalgrid** Norwich to Tilbury

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

Title: **Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology**  
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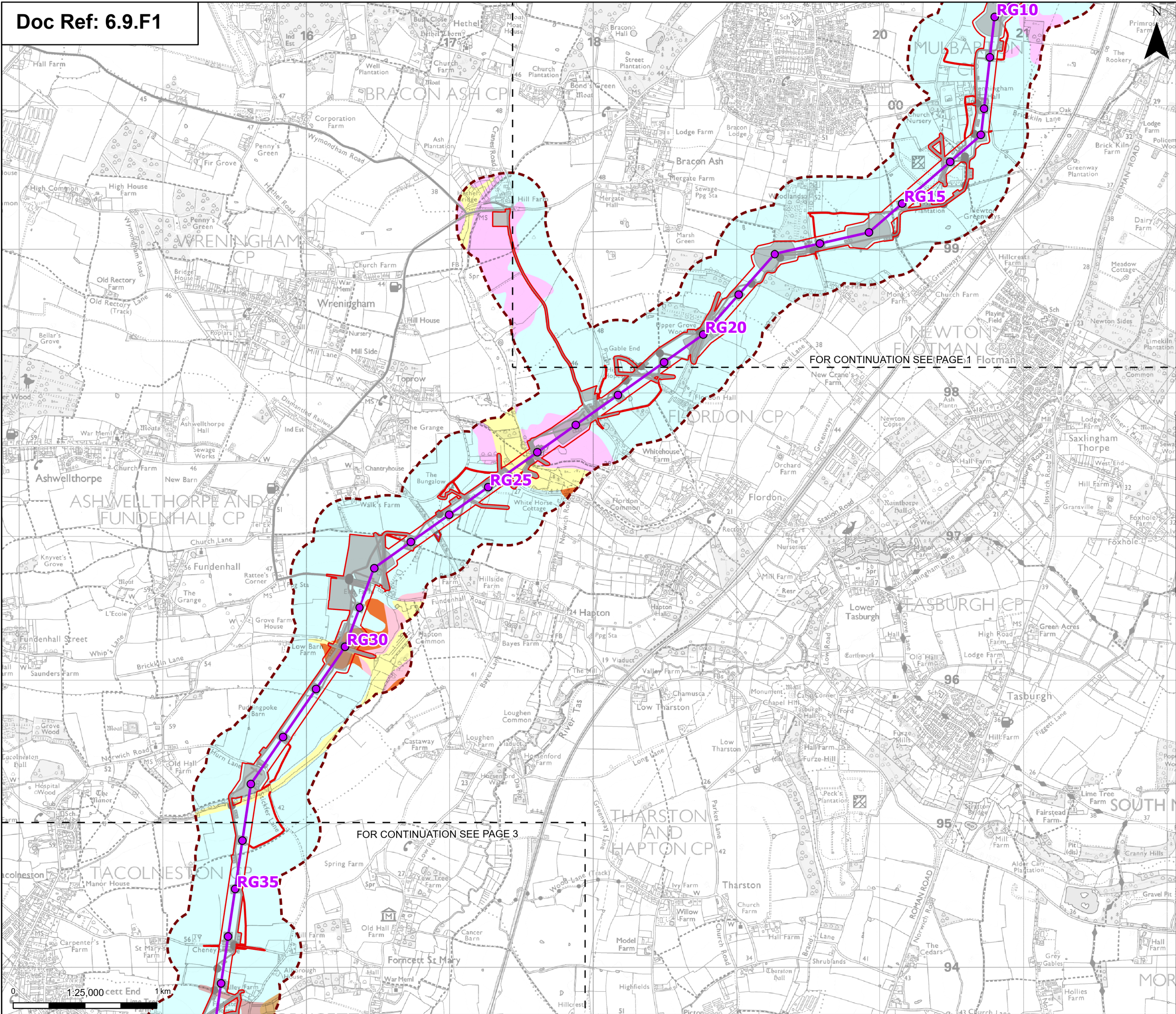
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Suitability Code:	A2	Project Number:	10059280
Suitability Description:			

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Order limits

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

250 m Study Area

Superficial geology

Alluvium - clay, silt, sand and gravel

Happisburgh Glacigenic Formation and

Lowestoft Formation (undifferentiated) - sand and gravel

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Leet Hill Sand and Gravel Member - sand and gravel

Sheringham Cliffs Formation - sand and gravel

Head - clay, silt, sand and gravel

Peat

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).

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Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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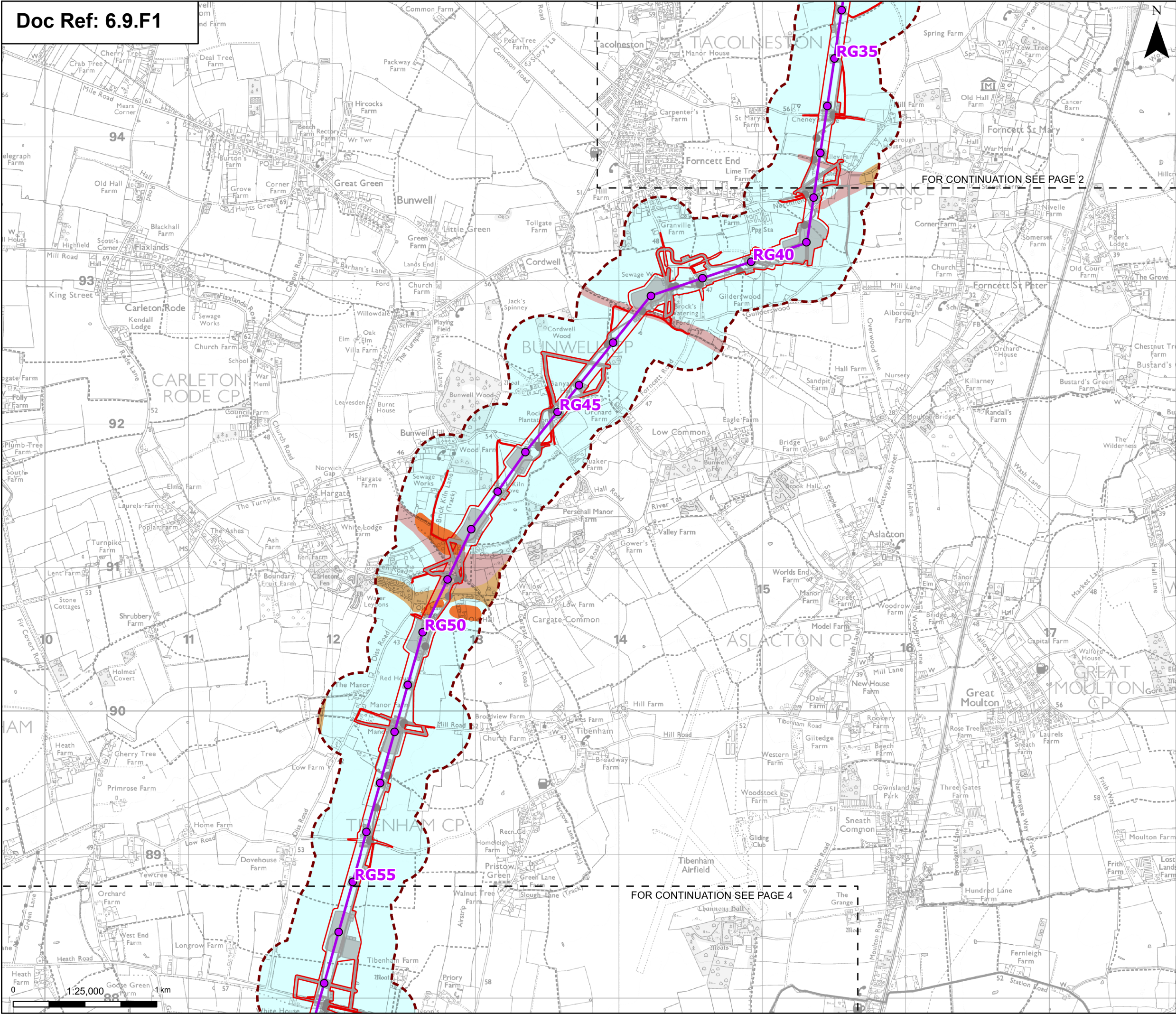
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Order limits

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Head - clay, silt, sand and gravel

Peat

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).

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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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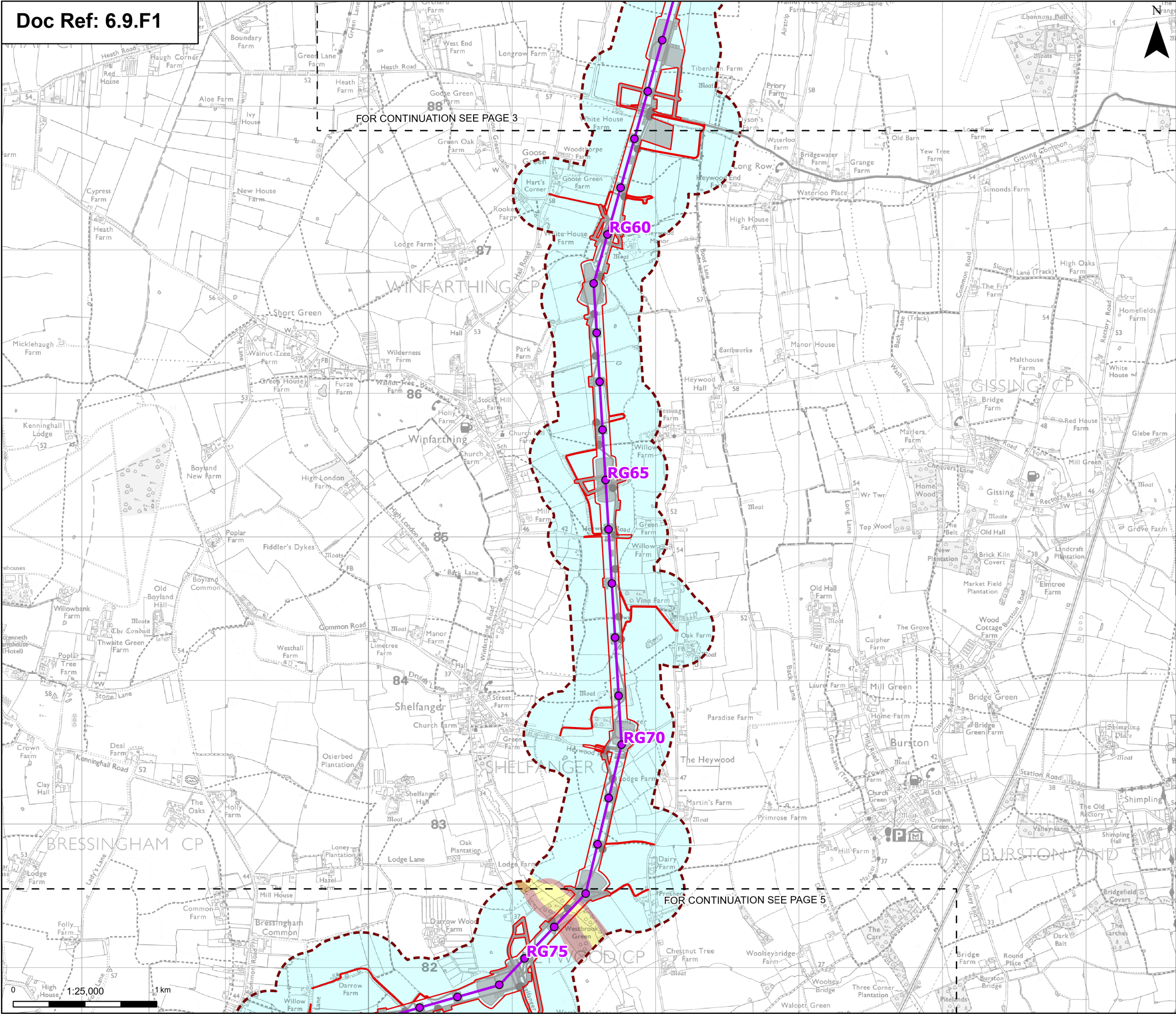
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Order limits

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

250 m Study Area

Superficial geology

Alluvium - clay, silt, sand and gravel

Lowestoft Formation - diamicton

Head - clay, silt, sand and gravel

Peat

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).

Discipline specific constraints

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London

Cambridge

Ipswich

Chelmsford

Tilbury

Norwich

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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology Page 4 of 24

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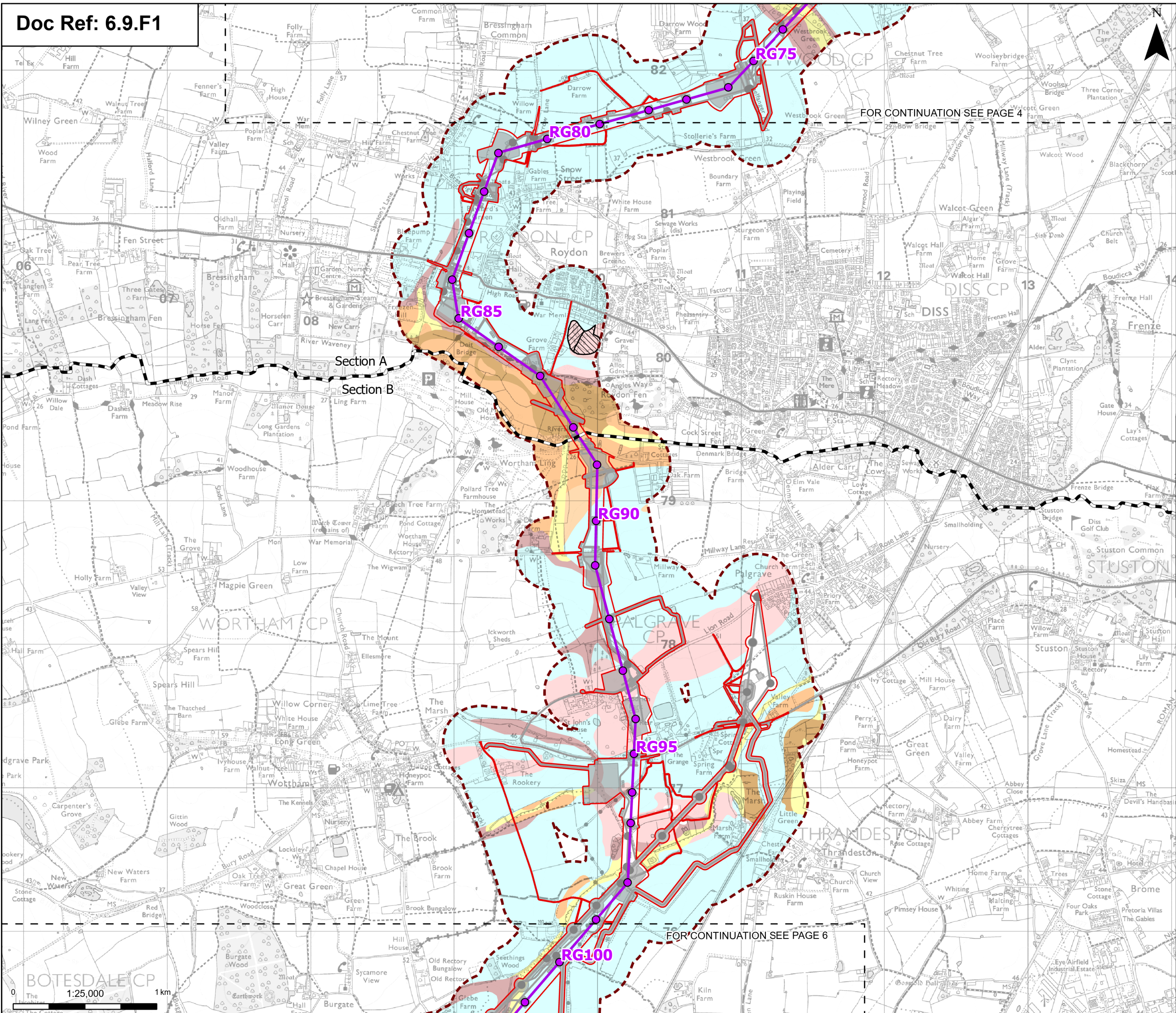
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Order limits

Project section line

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

250 m Study Area

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Alluvium - clay, silt, sand and gravel

Croxtan Sand and Gravel Member - sand and gravel

Lodge Farm Silt and Clay Member - clay, silt and sand

Lowestoft Formation - diamicton

Ingham Sand and Gravel Formation - sand and gravel

Head - clay, silt, sand and gravel

Peat

River Terrace Deposits, 1 - sand and gravel

River Terrace Deposits, 2 - sand and gravel

River Terrace Deposits, 3 - sand and gravel

Tufa - tufa, calcareous

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).

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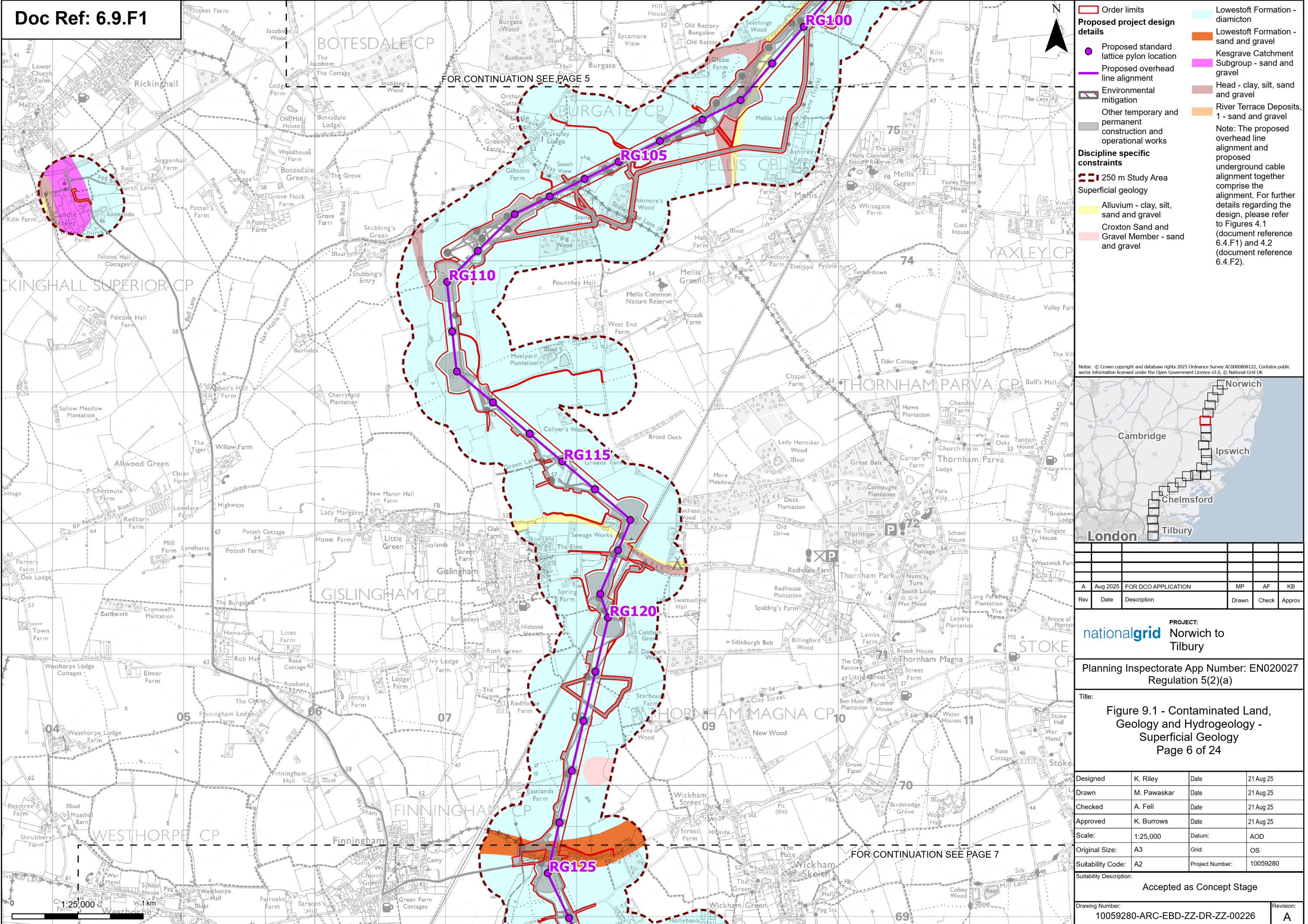
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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
Page 5 of 24

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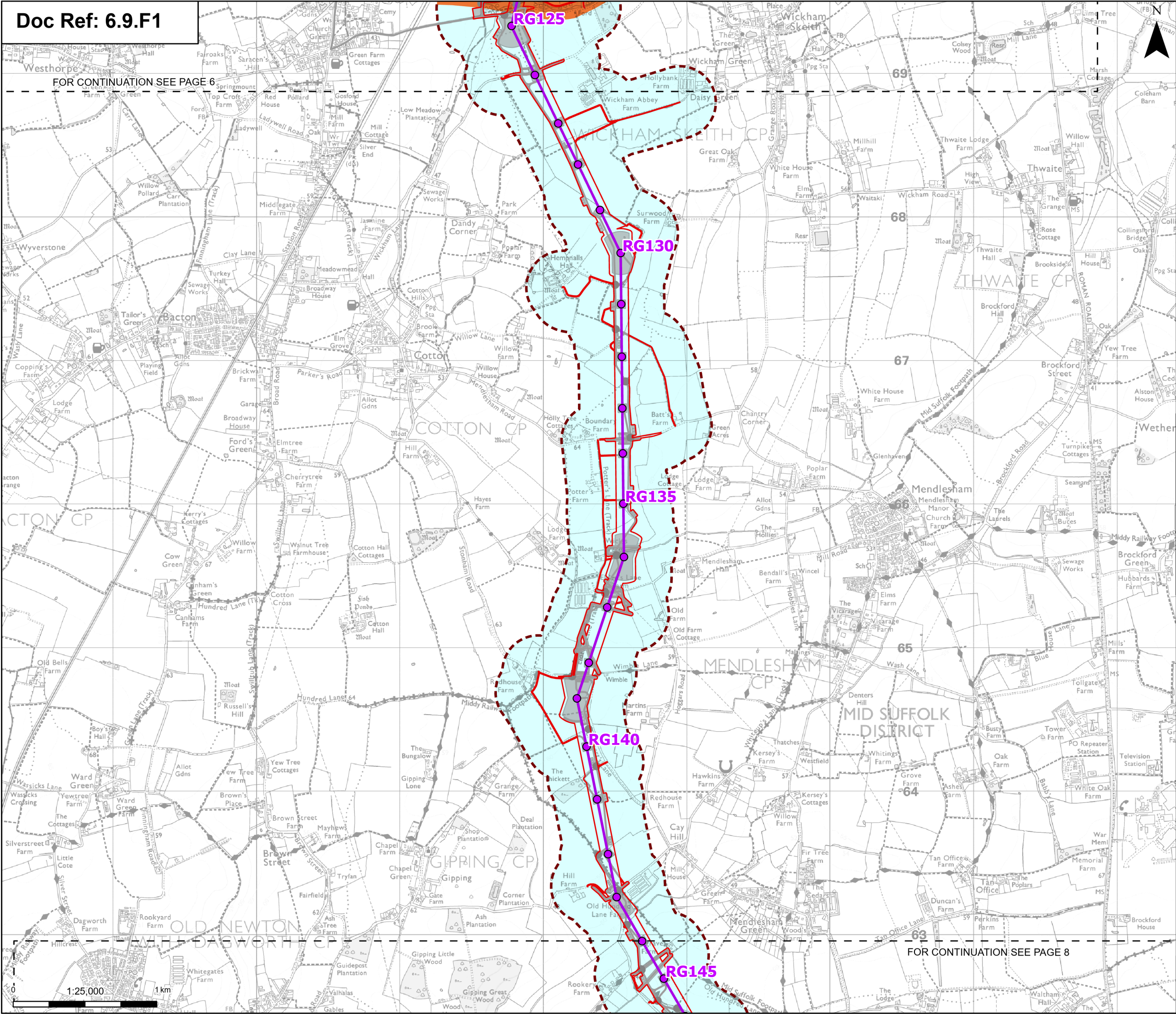
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Order limits

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

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).

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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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FOR CONTINUATION SEE PAGE 7

FOR CONTINUATION SEE PAGE 9

Order limits

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

250 m Study Area

Superficial geology

Alluvium - clay and silt

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Glaciofluvial Deposits, Mid Pleistocene - sand and gravel

River Terrace Deposits, 1 - sand and gravel

River Terrace Deposits (undifferentiated) - sand and gravel

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).

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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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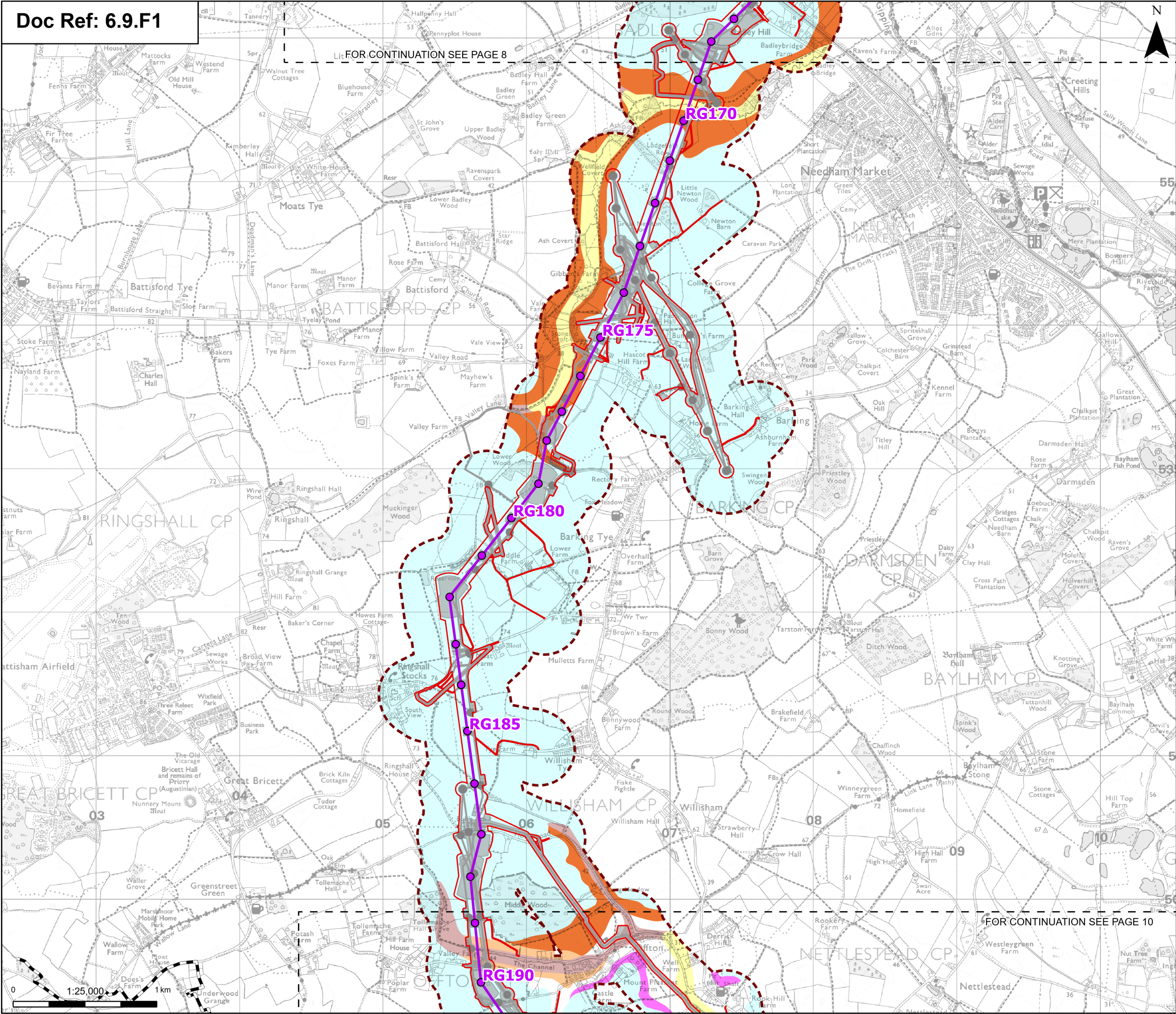
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FOR CONTINUATION SEE PAGE 10



Order limits

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

250 m Study Area

Superficial geology

Alluvium - clay and silt

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Kesgrave Catchment Subgroup - sand and gravel

Head - diamicton

River Terrace Deposits (undifferentiated) - sand and gravel

Note: The proposed overhead line alignment and proposed underground cable alignment together comprise the design. 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).

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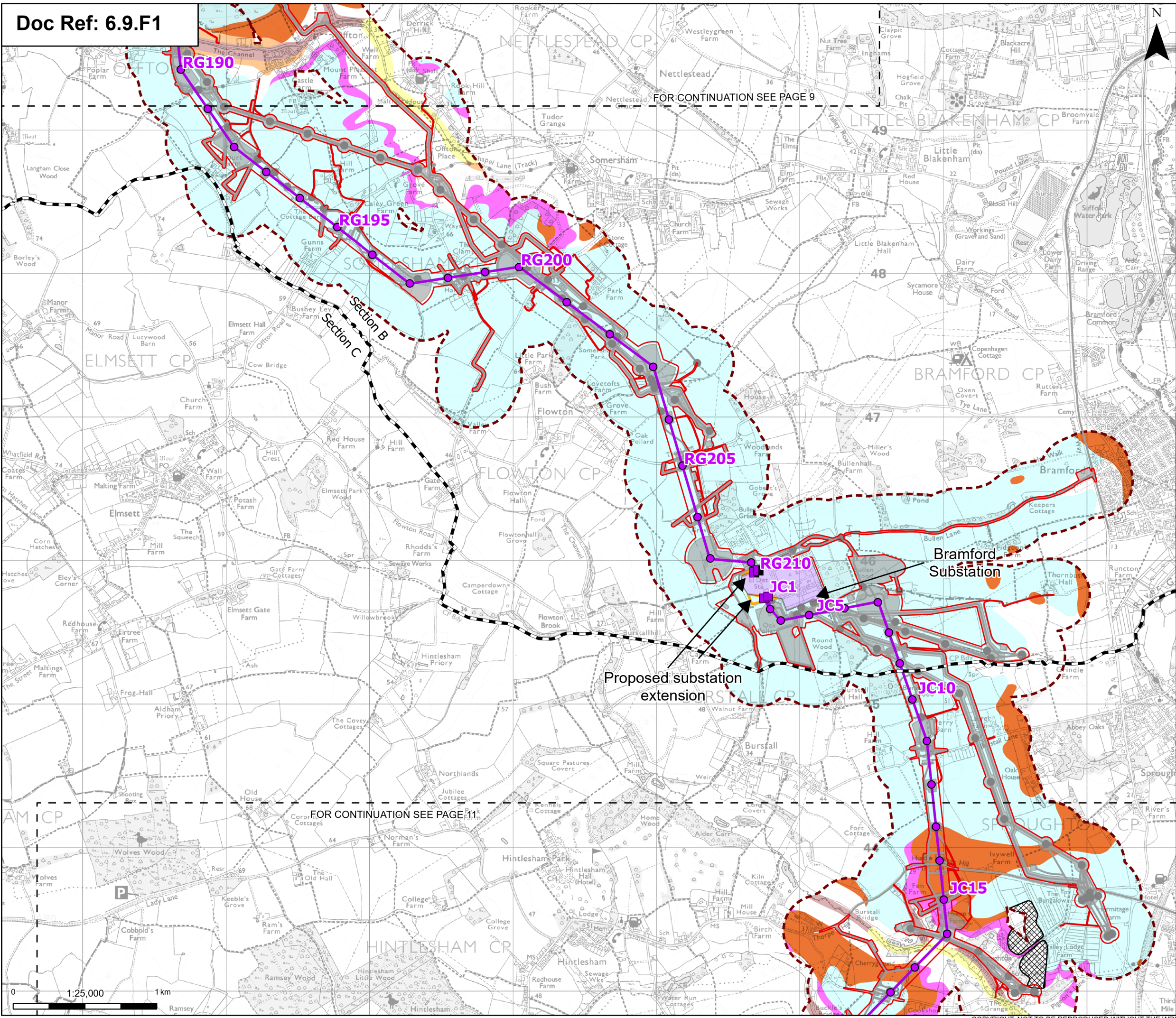
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**Order limits**

**Project section line**

**Proposed project design details**

- Proposed full line tension gantry
- Proposed low duty gantry
- Proposed standard lattice pylon location
- Proposed overhead line alignment
- Bramford Substation
- Bramford Substation Extension
- Other temporary and permanent construction and operational works

**Discipline specific constraints**

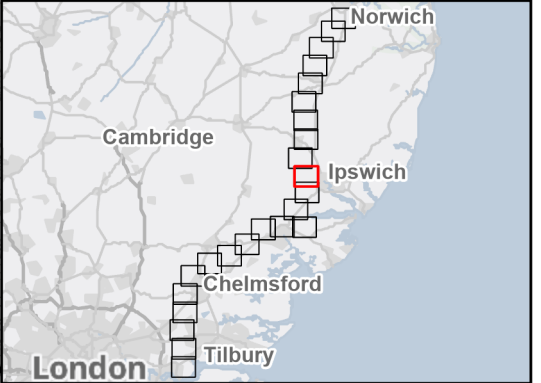
- 250 m Study Area
- Superficial geology
- Infilled ground - artificial deposit

**Geology and Hydrogeology**

- Alluvium - clay and silt
- Lowestoft Formation - diamicton
- Lowestoft Formation - sand and gravel
- Kesgrave Catchment Subgroup - sand and gravel
- Head - diamicton
- River Terrace Deposits (undifferentiated) - sand and gravel

**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).

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Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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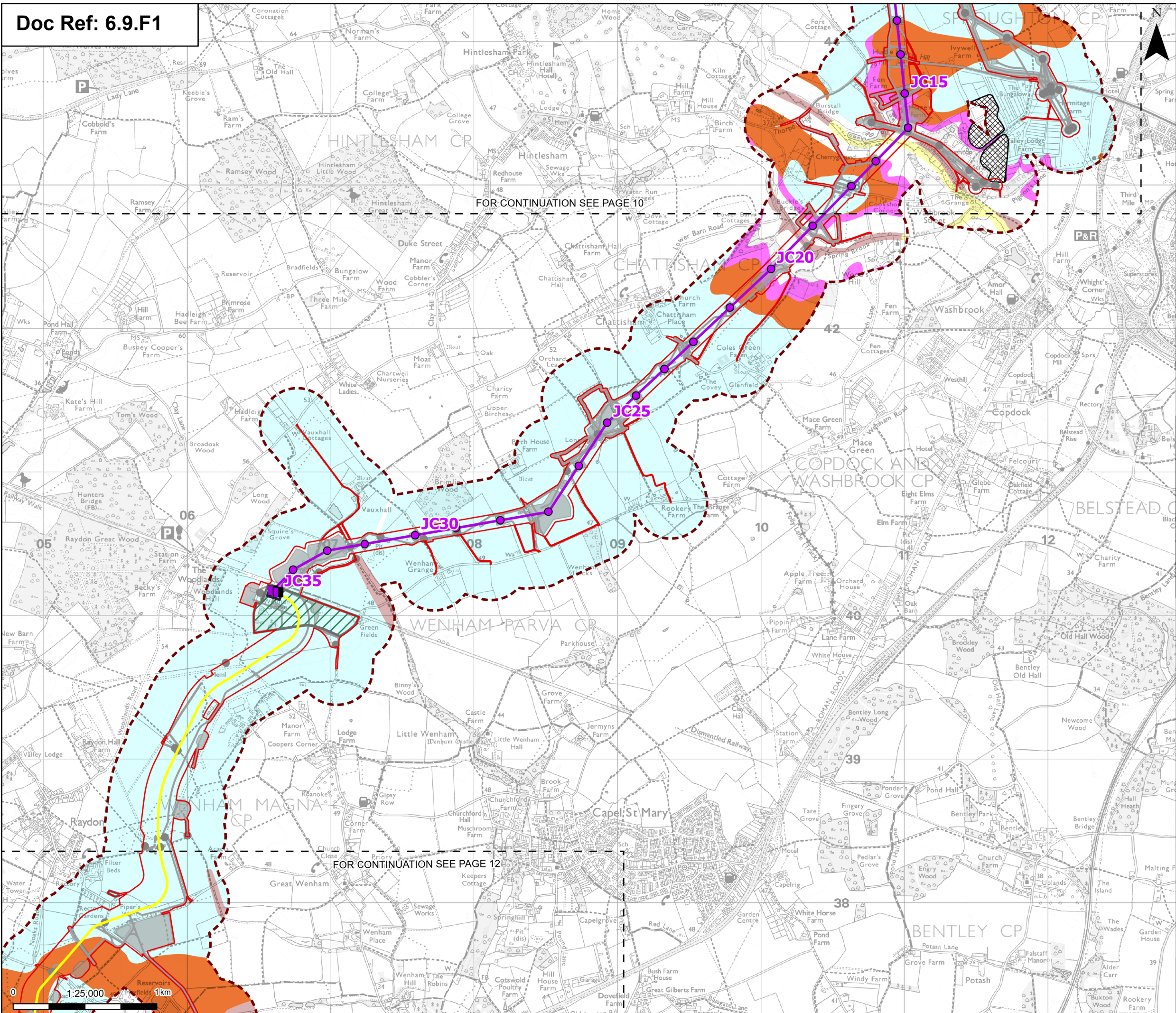
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Revision:  
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Order limits

Proposed project design details

Proposed full line tension gantry

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

250 m Study Area

Superficial geology

Infilled ground - artificial deposit

Alluvium - clay and silt

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Kesgrave Catchment Subgroup - sand and gravel

Head - diamicton

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).

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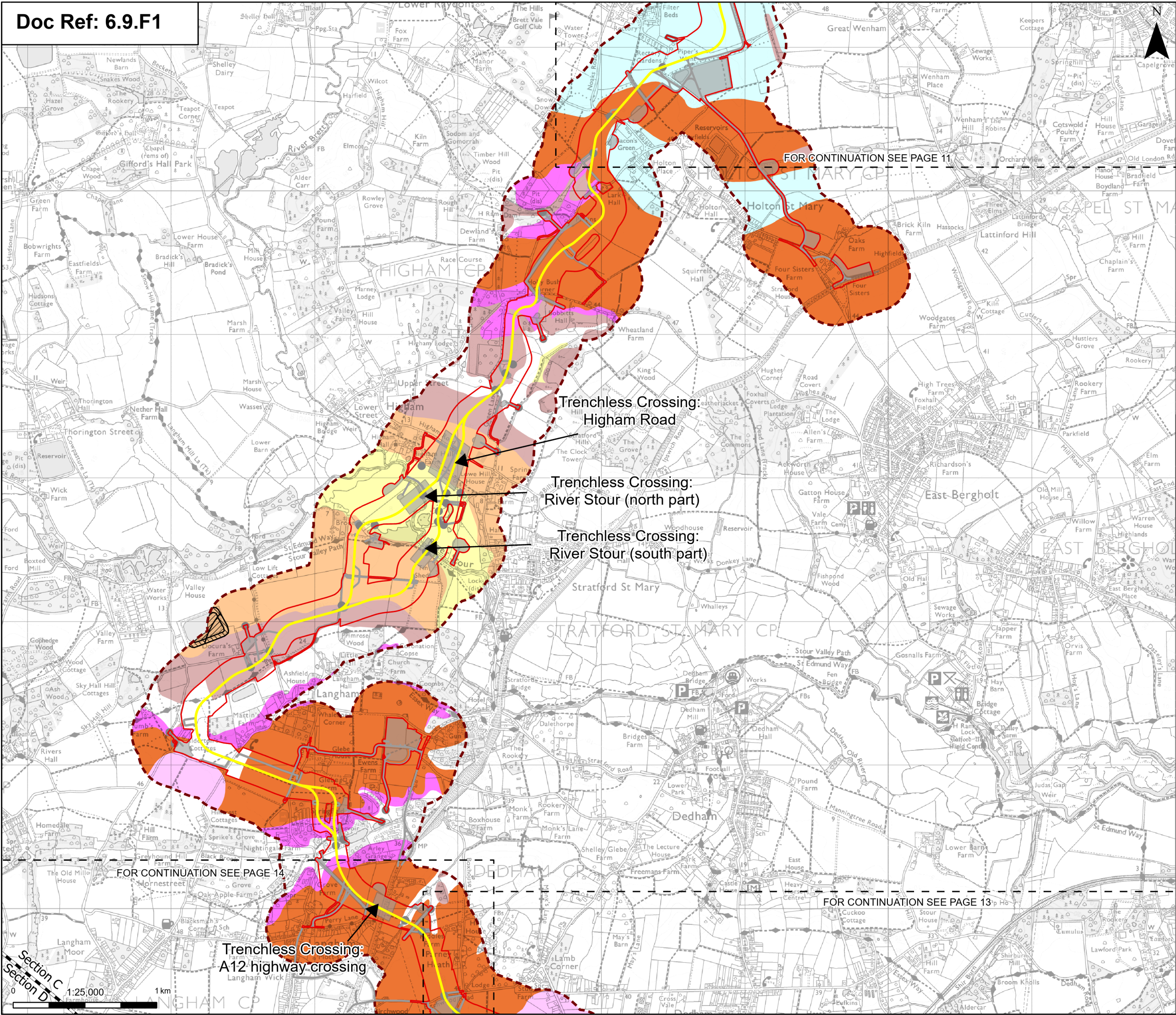
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Order limits

Project section line

Proposed project design details

Proposed underground cable alignment

Environmental mitigation

Other temporary and permanent construction and operational works

250 m Study Area

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Alluvium - clay and silt

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Kesgrave Catchment Subgroup - sand and gravel

Cover Sand - clay, silt and sand

Head - diamicton

Head - gravel

River Terrace Deposits, 2 - sand and gravel

River Terrace Deposits, 3 - sand and gravel

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).

Discipline specific constraints

250 m Study Area

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Alluvium - clay and silt

Lowestoft Formation - diamicton

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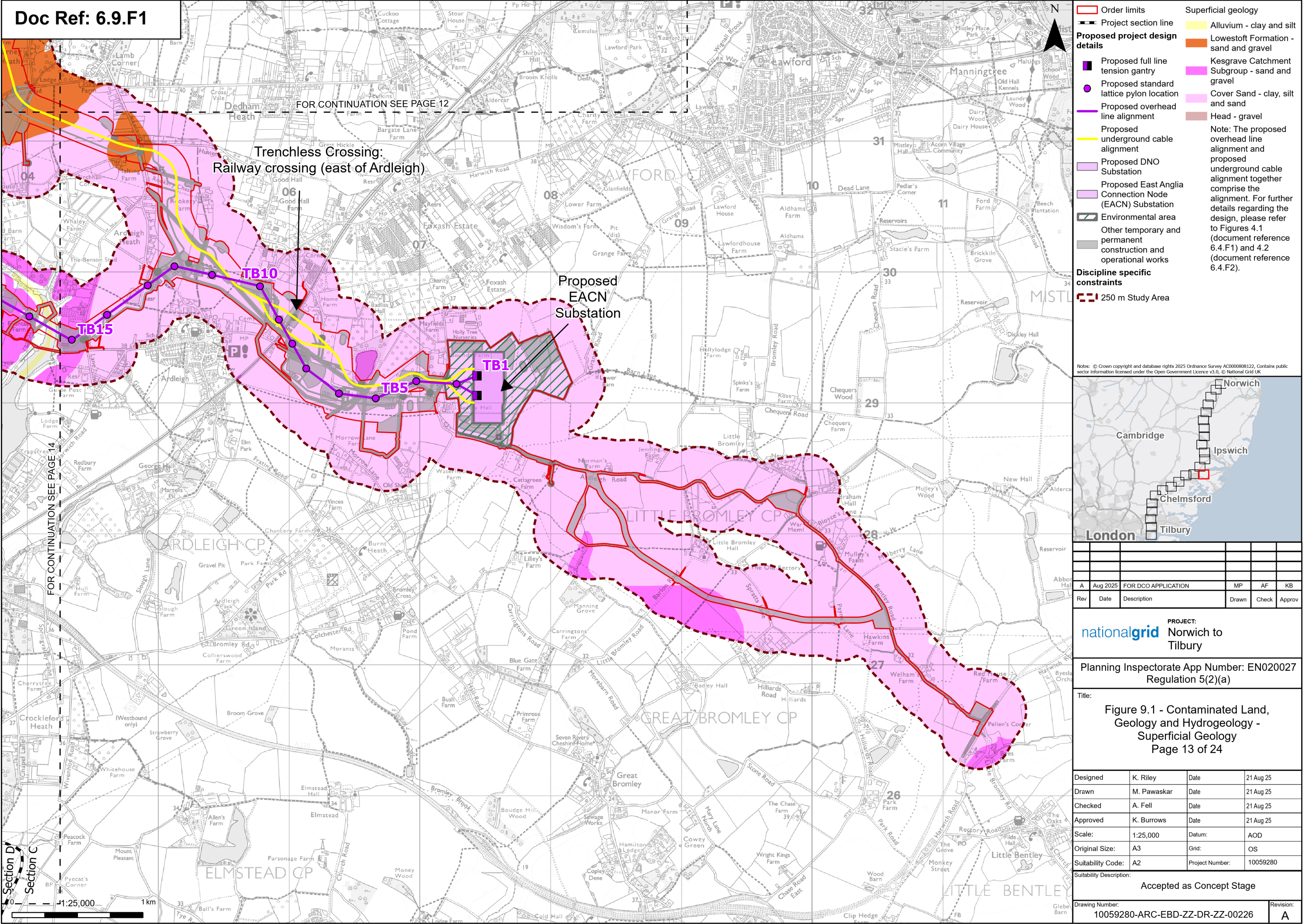
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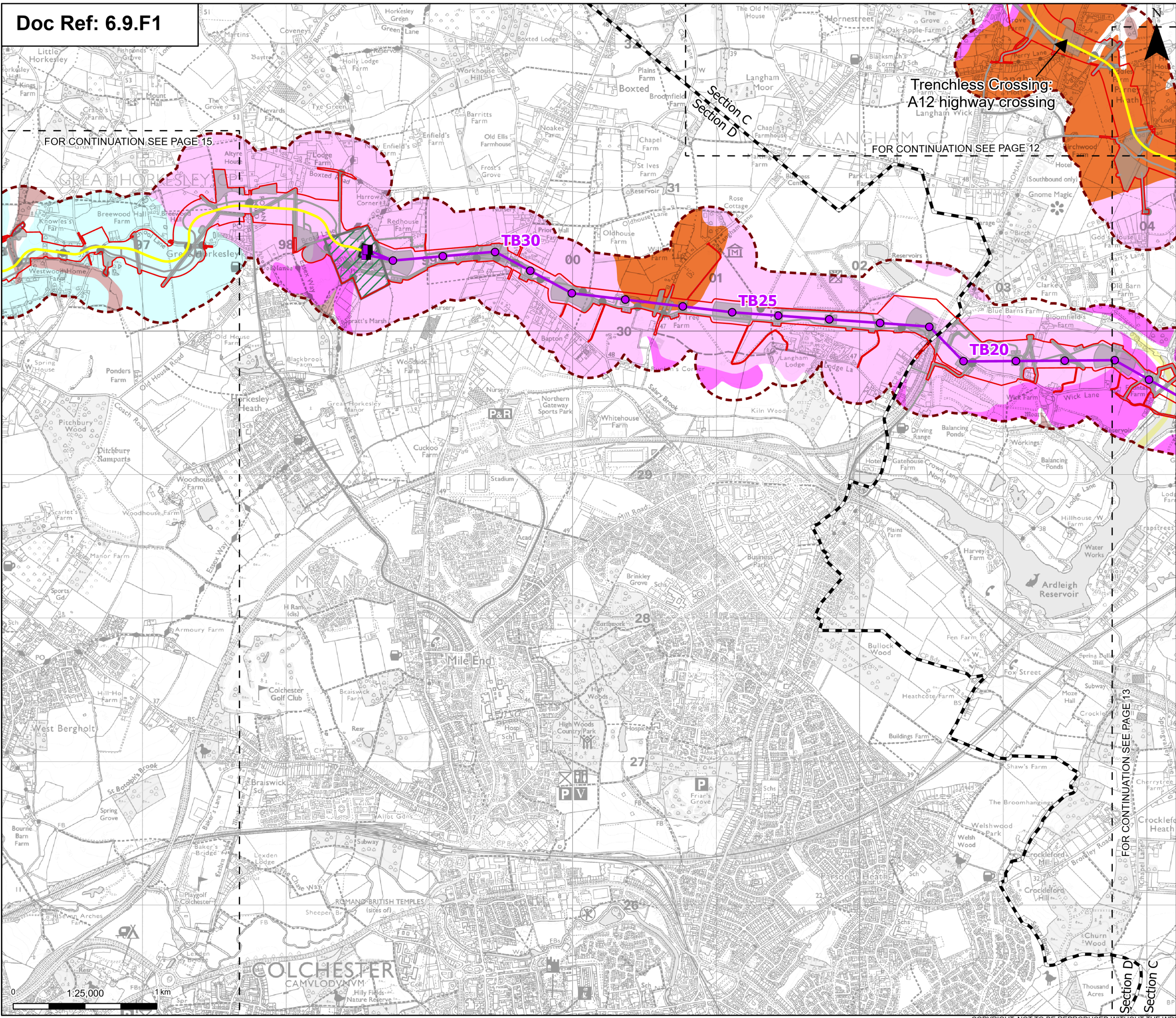
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Order limits

Project section line

Proposed project design details

Proposed full line tension gantry

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

250 m Study Area

Superficial geology

Alluvium - clay and silt

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Kesgrave Catchment Subgroup - sand and gravel

Cover Sand - clay, silt and sand

Head - diamicton

Head - gravel

Head - clay, silt, sand and gravel

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).

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:  
nationalgrid Norwich to Tilbury

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

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
Page 14 of 24

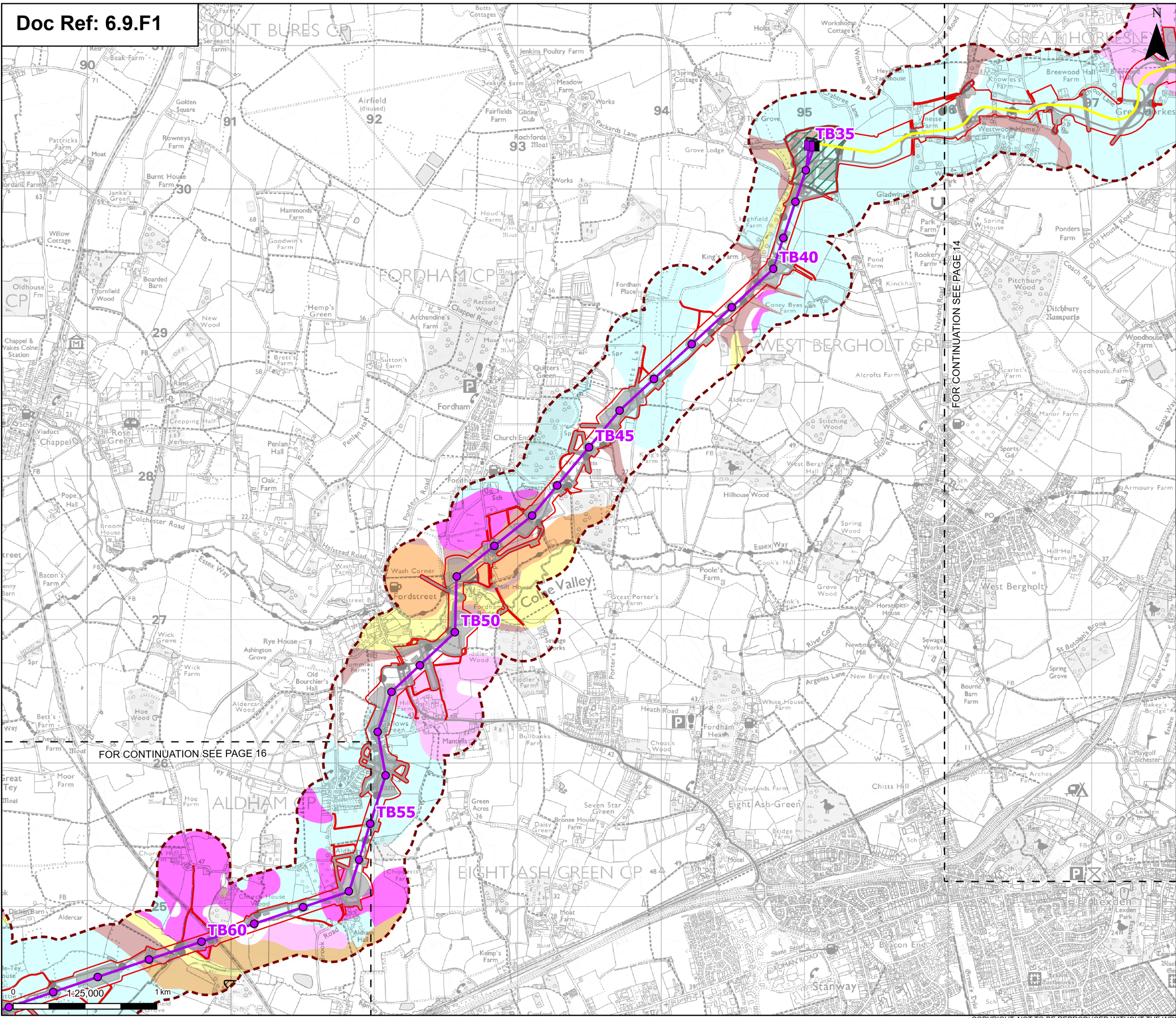
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:  
Accepted as Concept Stage

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00226	Revision: A
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**Order limits**

**Proposed project design details**

- Proposed full line tension gantry
- 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

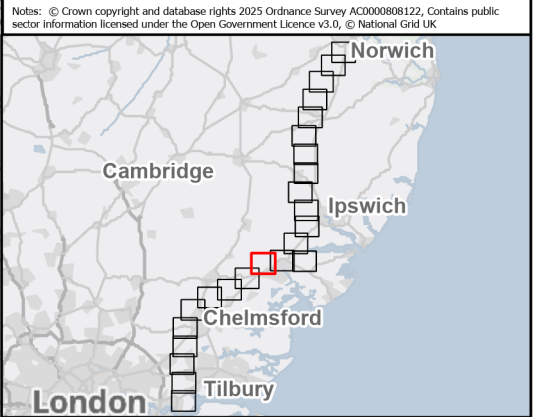
**Discipline specific constraints**

- 250 m Study Area
- Superficial geology
- Worked ground (undivided) - void
- Alluvium - clay, silt, sand and gravel

**Geology and Hydrogeology**

- River Terrace Deposits, 1 to 2 - sand and gravel
- Lowestoft Formation - diamicton
- Interglacial Lacustrine Deposits - clay and silt
- Kesgrave Catchment Subgroup - sand and gravel
- Cover Sand - clay, silt and sand
- Head - clay, silt, sand and gravel
- River Terrace Deposits, 1 - sand and gravel
- River Terrace Deposits, 2 - sand and gravel

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).



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A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB

PROJECT:  
**nationalgrid** Norwich to Tilbury

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

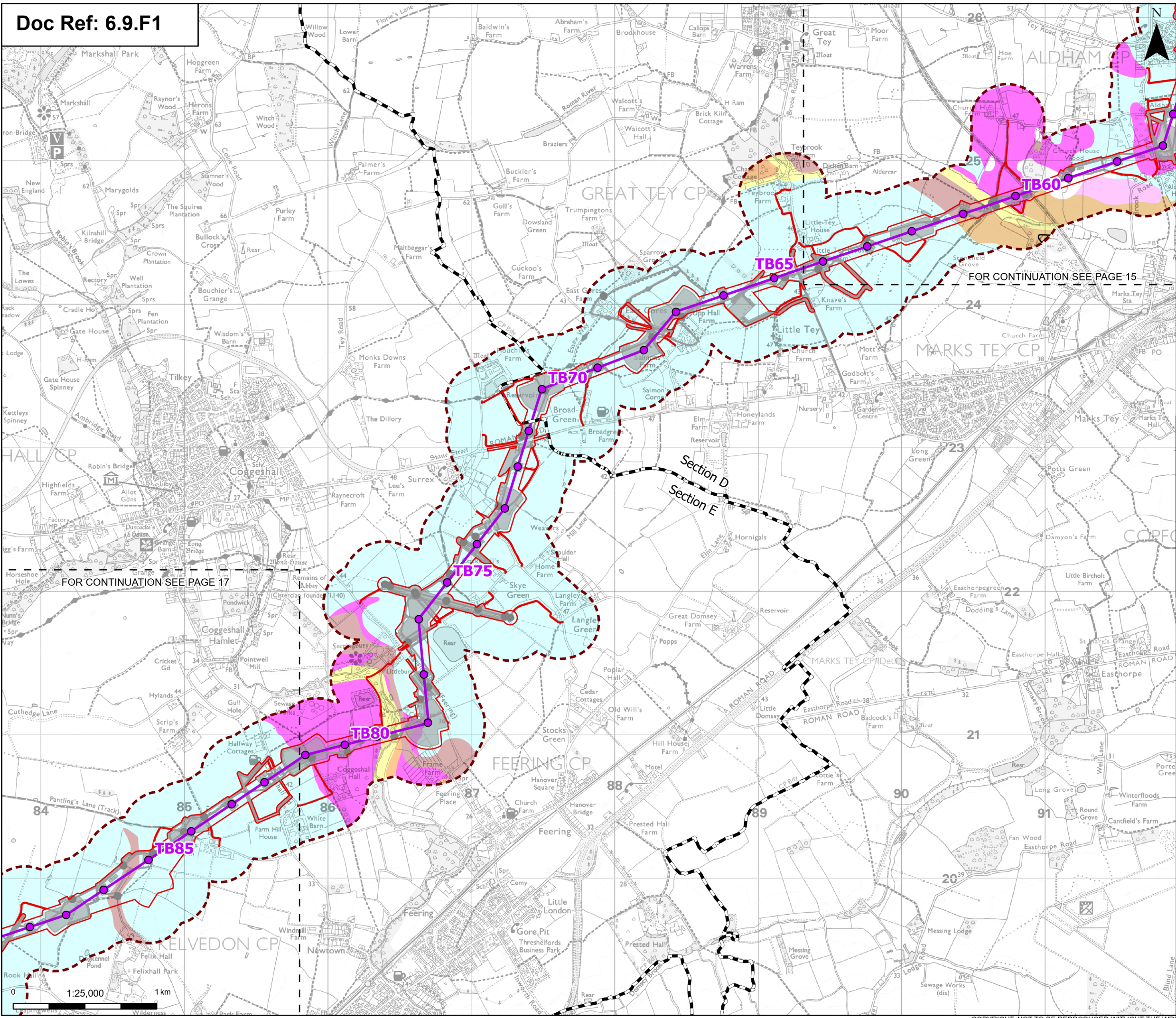
Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
Page 15 of 24

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

Accepted as Concept Stage

Drawing Number: 10059280-ARC-EBD-ZZ-DR-ZZ-00226	Revision: A
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Order limits

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

250 m Study Area

Superficial geology

Worked ground (undivided) - void

Alluvium - clay, silt, sand and gravel

River Terrace Deposits, 1 to 2 - sand and gravel

Lowestoft Formation - diamicton

Interglacial Lacustrine Deposits - clay and silt

Kesgrave Catchment Subgroup - sand and gravel

Cover Sand - clay, silt and sand

Head - clay, silt, sand and gravel

River Terrace Deposits, 1 - sand and gravel

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).

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PROJECT:  
nationalgrid Norwich to Tilbury

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

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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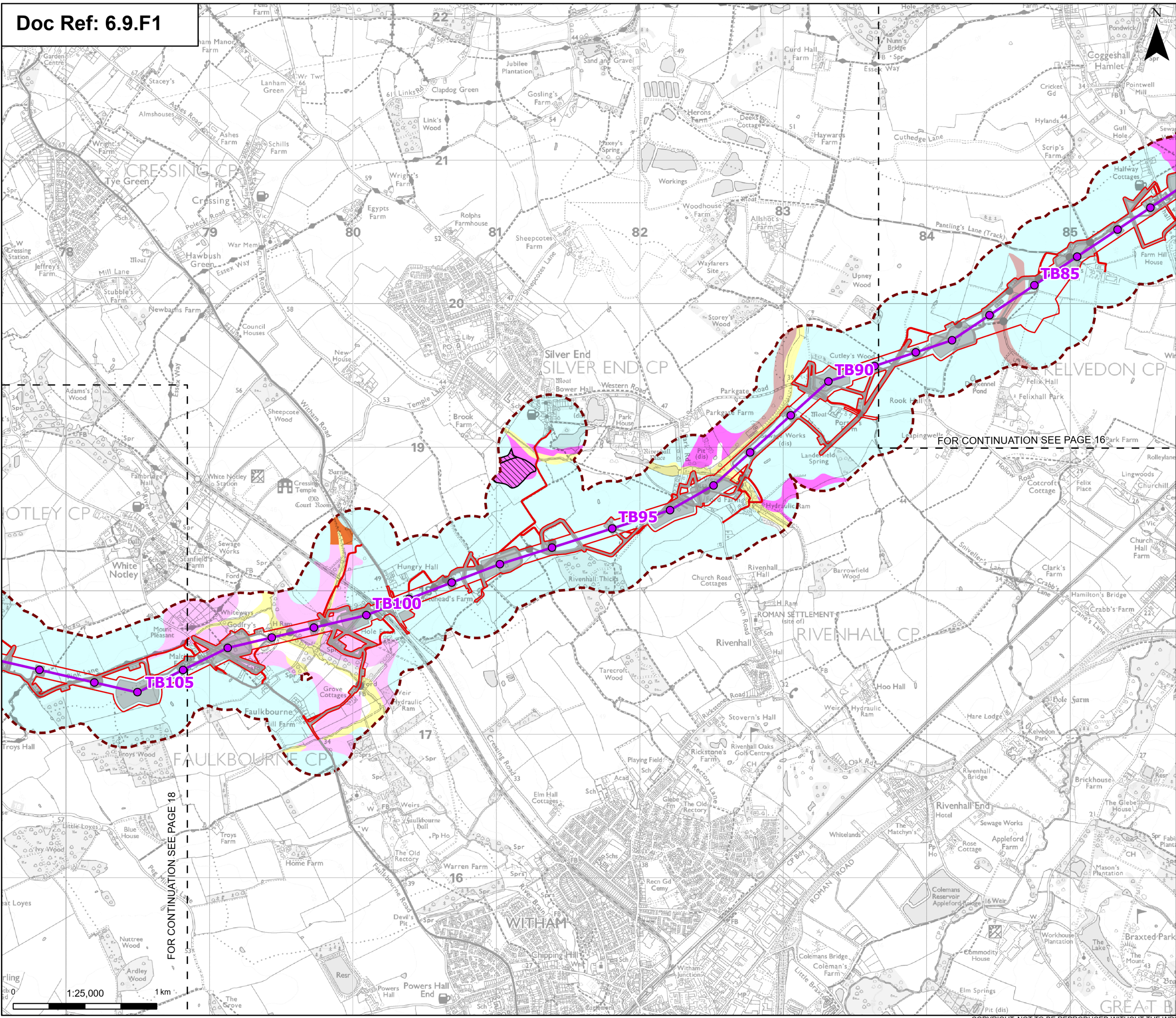
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280

Suitability Description:  
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Order limits

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Made ground (undivided) - artificial deposit

Alluvium - clay, silt, sand and gravel

Lowestoft Formation - diamicton

Lowestoft Formation - sand and gravel

Glaciofluvial Deposits, Mid Pleistocene - sand and gravel

Kesgrave Catchment Subgroup - sand and gravel

Head - clay, silt, sand and gravel

Tufa - tufa, calcareous

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).

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PROJECT:  
nationalgrid Norwich to Tilbury

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Regulation 5(2)(a)

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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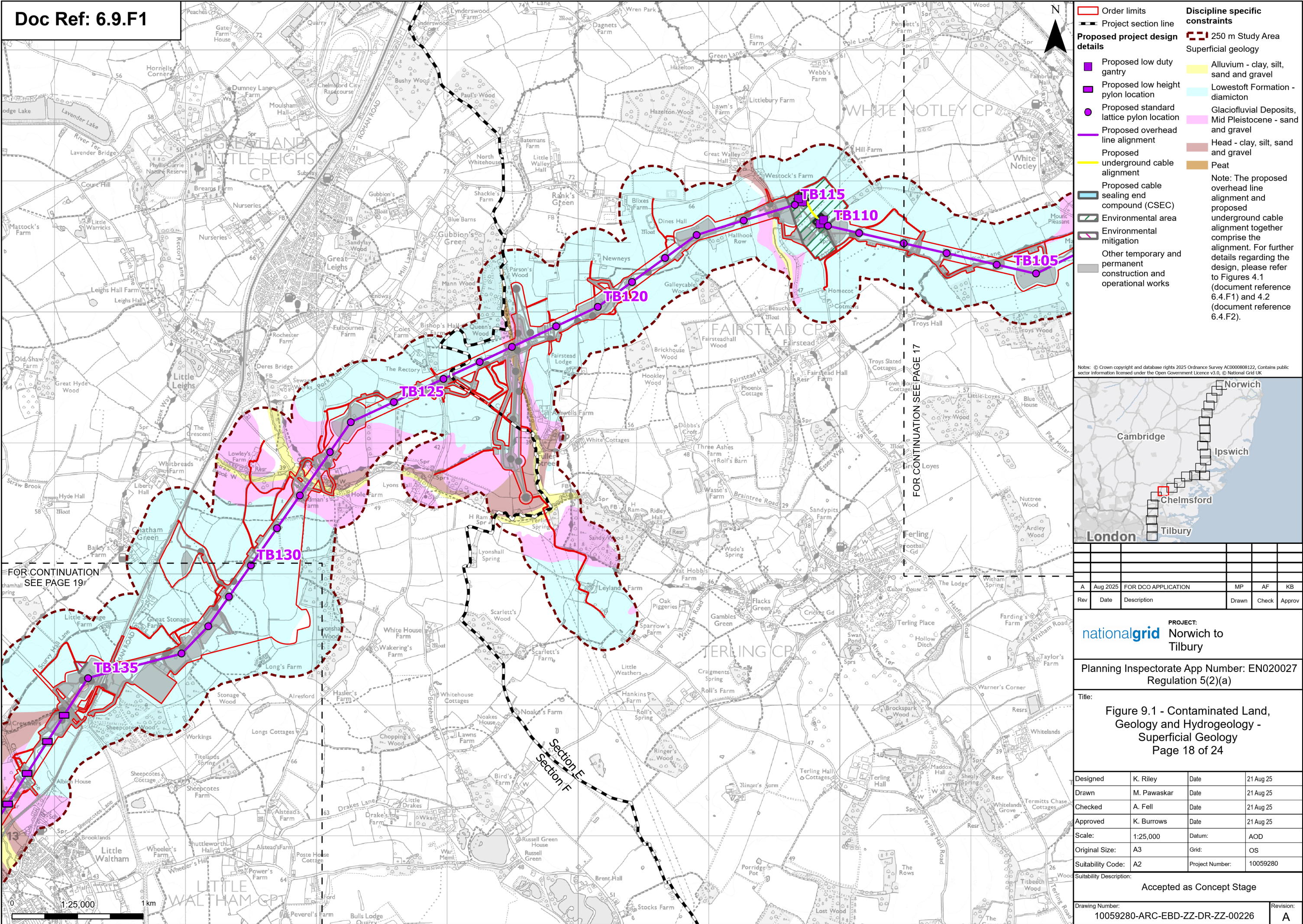
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Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Suitability Description:			

Accepted as Concept Stage

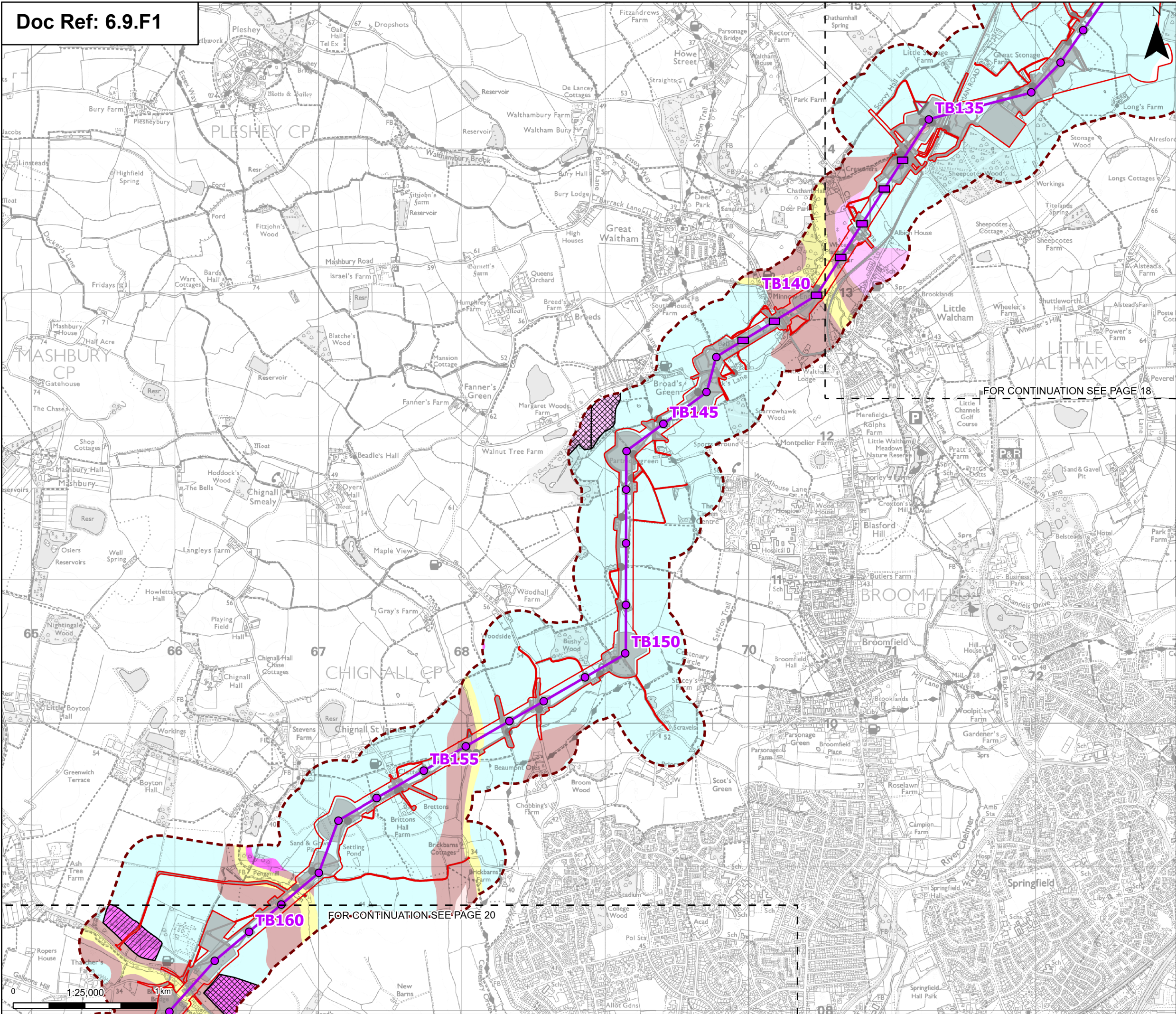
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Order limits

Proposed project design details

Proposed low height pylon location

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Worked ground (undivided) - void

Infilled ground - artificial deposit

Alluvium - clay, silt, sand and gravel

Lowestoft Formation - diamicton

Glaciofluvial Deposits, Mid Pleistocene - sand and gravel

Glaciolacustrine Deposits, Mid Pleistocene - clay, silt and sand

Kesgrave Catchment Subgroup - sand and gravel

Head - clay, silt, sand and gravel

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).

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nationalgrid Norwich to Tilbury

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Regulation 5(2)(a)

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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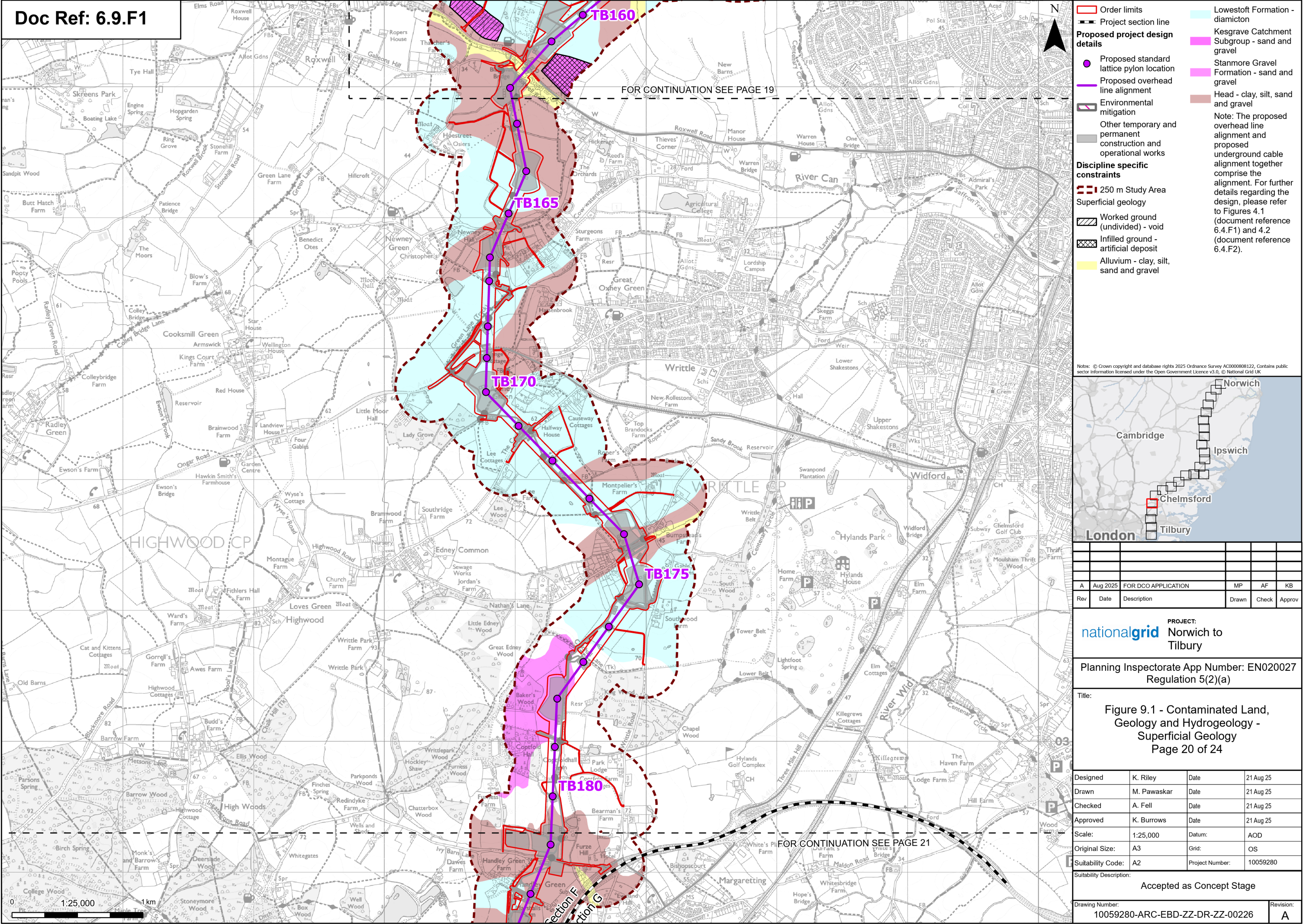
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Checked	A. Fell	Date	21 Aug 25
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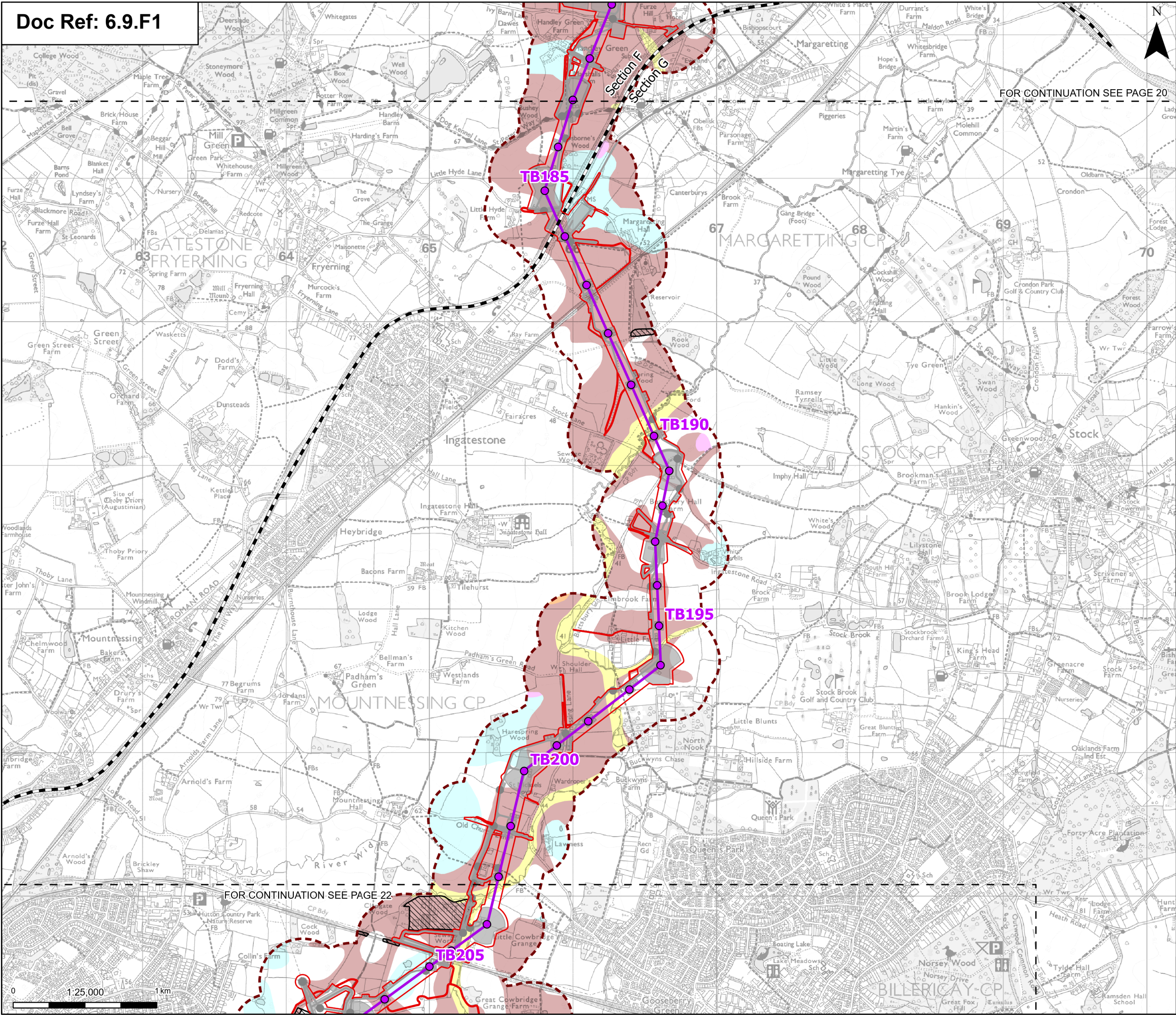
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Order limits

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

- 250 m Study Area

Superficial geology

- Made ground (undivided) - artificial deposit
- Alluvium - clay, silt, sand and gravel

Lowestoft Formation - diamicton

Glaciofluvial Deposits, Mid Pleistocene - sand and gravel

Head - clay, silt, sand and gravel

River Terrace Deposits (undifferentiated) - sand and gravel

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).

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London

Cambridge

Stock

Greenwood

Chelmsford

Tilbury

Ipswich

Norwich

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A	Aug 2025	FOR DCO APPLICATION	MP	AF	KB

PROJECT:

**nationalgrid** Norwich to Tilbury

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

Title:

Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology Page 21 of 24

Designed	K. Riley	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
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Approved	K. Burrows	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

Suitability Description:

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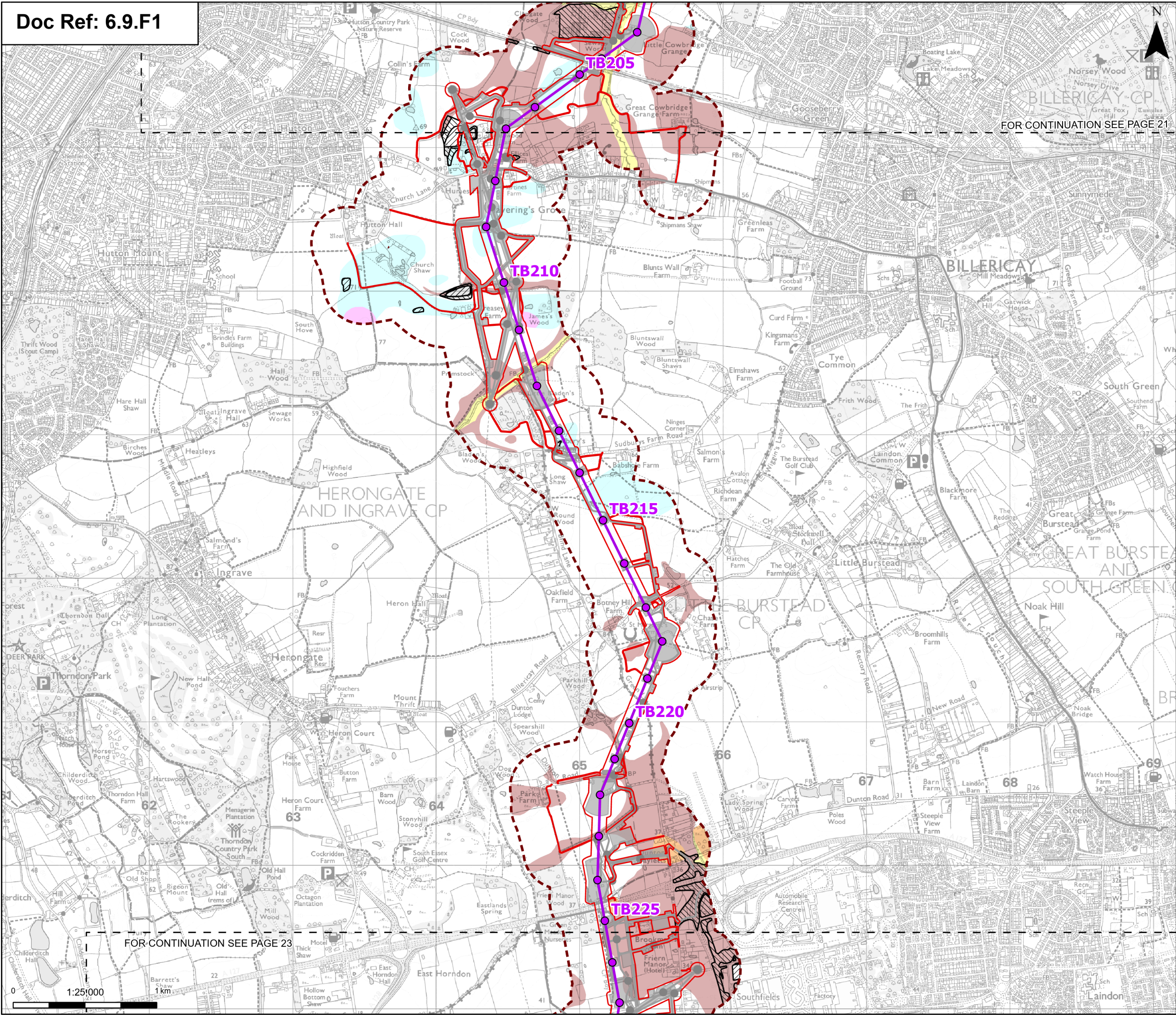
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Revision:

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Order limits

Proposed project design details

Proposed standard lattice pylon location

Proposed overhead line alignment

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Alluvium - clay, silt, sand and gravel

Lowestoft Formation - diamicton

Glaciofluvial Deposits, Mid Pleistocene - sand and gravel

Head - clay, silt, sand and gravel

River Terrace Deposits (undifferentiated) - sand and gravel

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).

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Norwich

Ipswich

Chelmsford

Tilbury

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Cambridge

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Rev	Date	Description	Drawn	Check	Approv

PROJECT:

nationalgrid

Norwich to Tilbury

Planning Inspectorate App Number: EN020027

Regulation 5(2)(a)

Title:

Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology

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Designed	K. Riley	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
Scale:	1:25,000	Datum:	AOD
Original Size:	A3	Grid:	OS
Suitability Code:	A2	Project Number:	10059280
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Drawing Number:			Revision:
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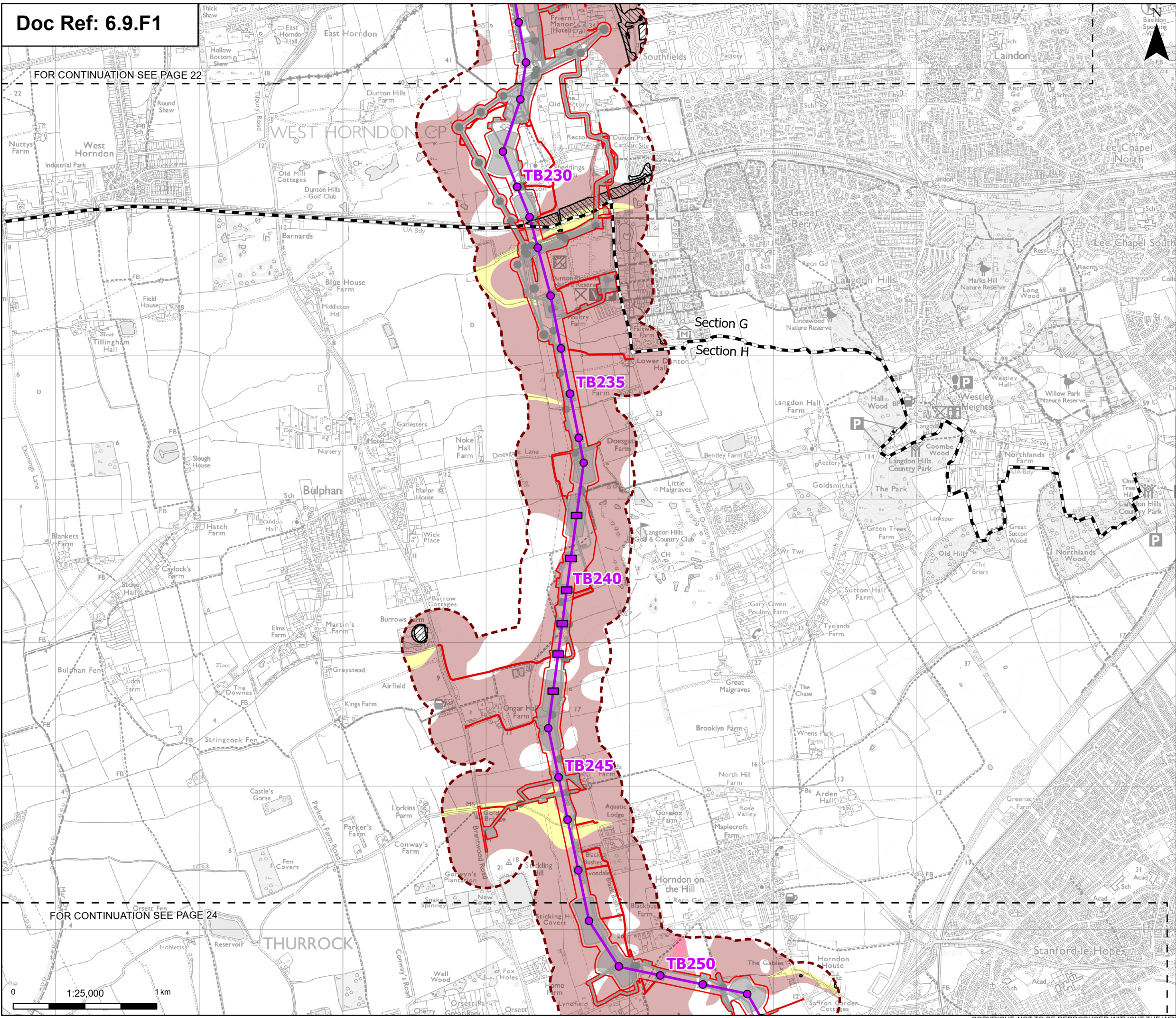
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FOR CONTINUATION SEE PAGE 22

FOR CONTINUATION SEE PAGE 24



Order limits

Project section line

Proposed low height pylon location

Proposed standard lattice pylon location

Proposed overhead line alignment

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Infilled ground - artificial deposit

Alluvium - clay, silt, sand and gravel

Black Park Gravel

Member - sand and gravel

Head - clay, silt, sand and gravel

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).

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PROJECT:  
nationalgrid Norwich to Tilbury

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

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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Designed	K. Riley	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
Checked	A. Fell	Date	21 Aug 25
Approved	K. Burrows	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

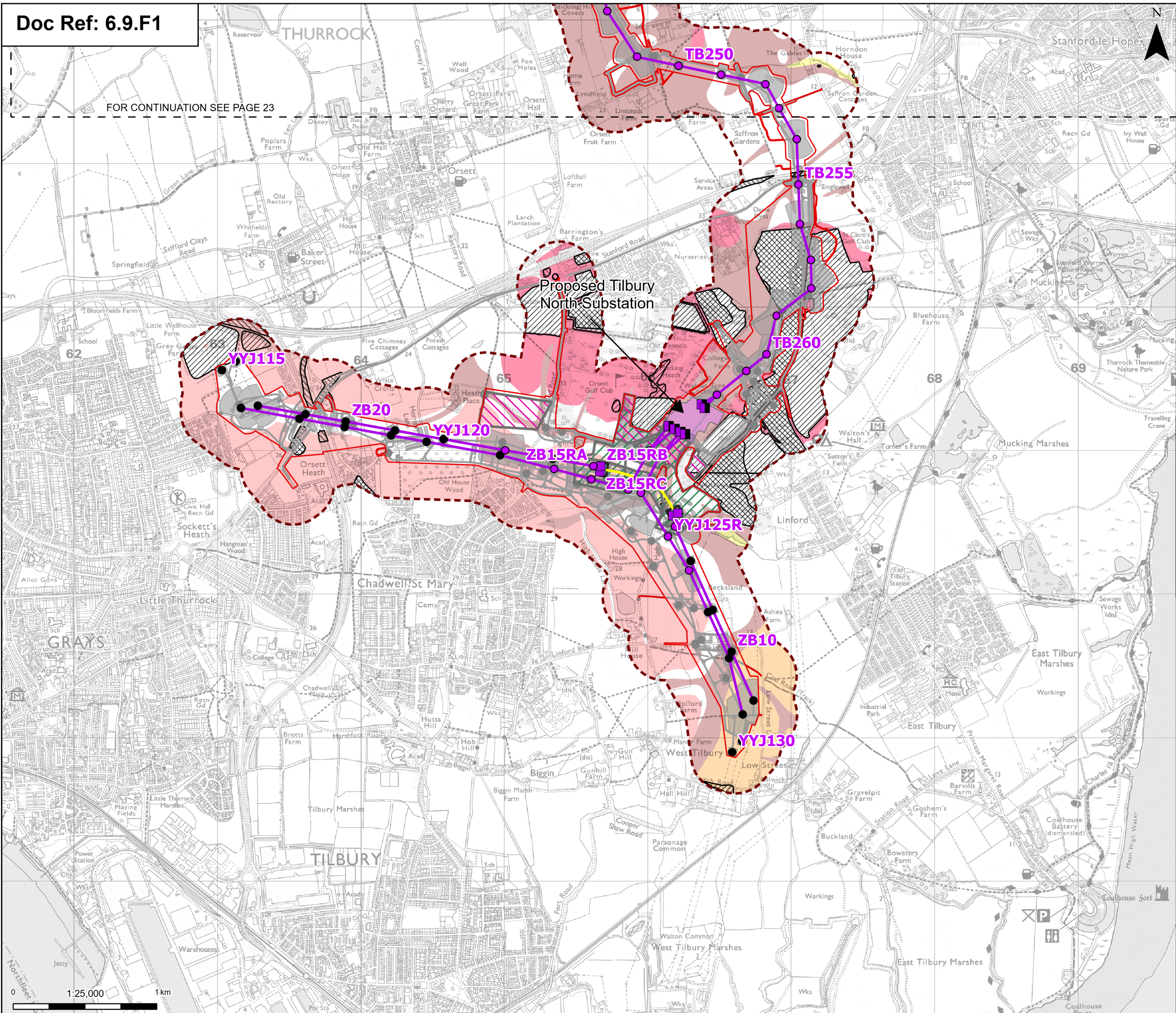
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Order limits

Proposed project design details

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

Proposed cable sealing end compound (CSEC)

Environmental area

Environmental mitigation

Other temporary and permanent construction and operational works

Discipline specific constraints

250 m Study Area

Superficial geology

Made ground (undivided) - artificial deposit

Worked ground (undivided) - void

Infilled ground - artificial deposit

Alluvium - clay, silt, sand and gravel

Taplow Gravel Member - sand and gravel

Boyn Hill Gravel Member - sand and gravel

Black Park Gravel Member - sand and gravel

Head - clay, silt, sand and gravel

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).

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PROJECT:  
nationalgrid Norwich to Tilbury

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

Title:  
Figure 9.1 - Contaminated Land, Geology and Hydrogeology - Superficial Geology  
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Designed	K. Riley	Date	21 Aug 25
Drawn	M. Pawaskar	Date	21 Aug 25
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Suitability Code:	A2	Project Number:	10059280

Suitability Description:  
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