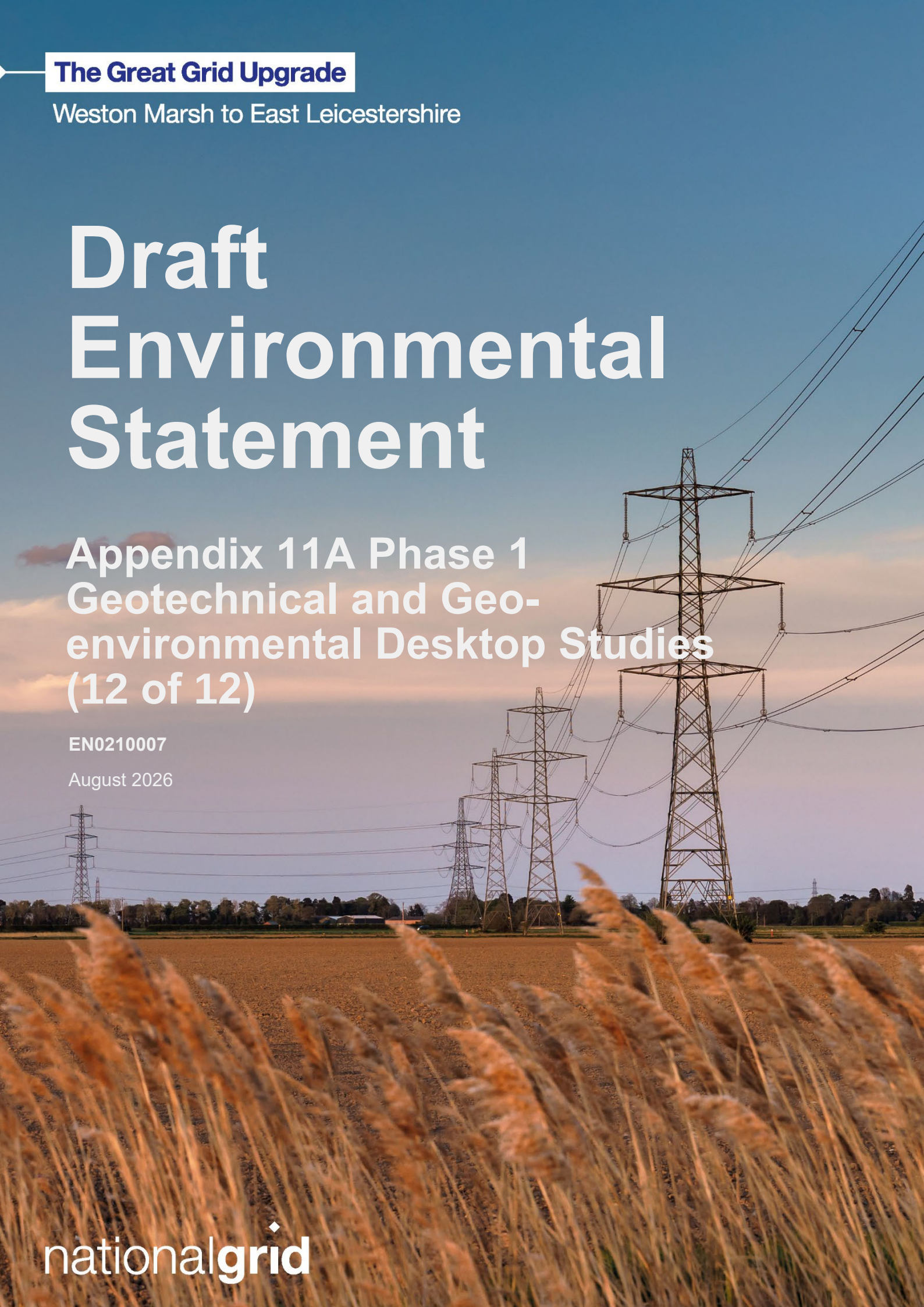




The Great Grid Upgrade

Weston Marsh to East Leicestershire

Draft Environmental Statement

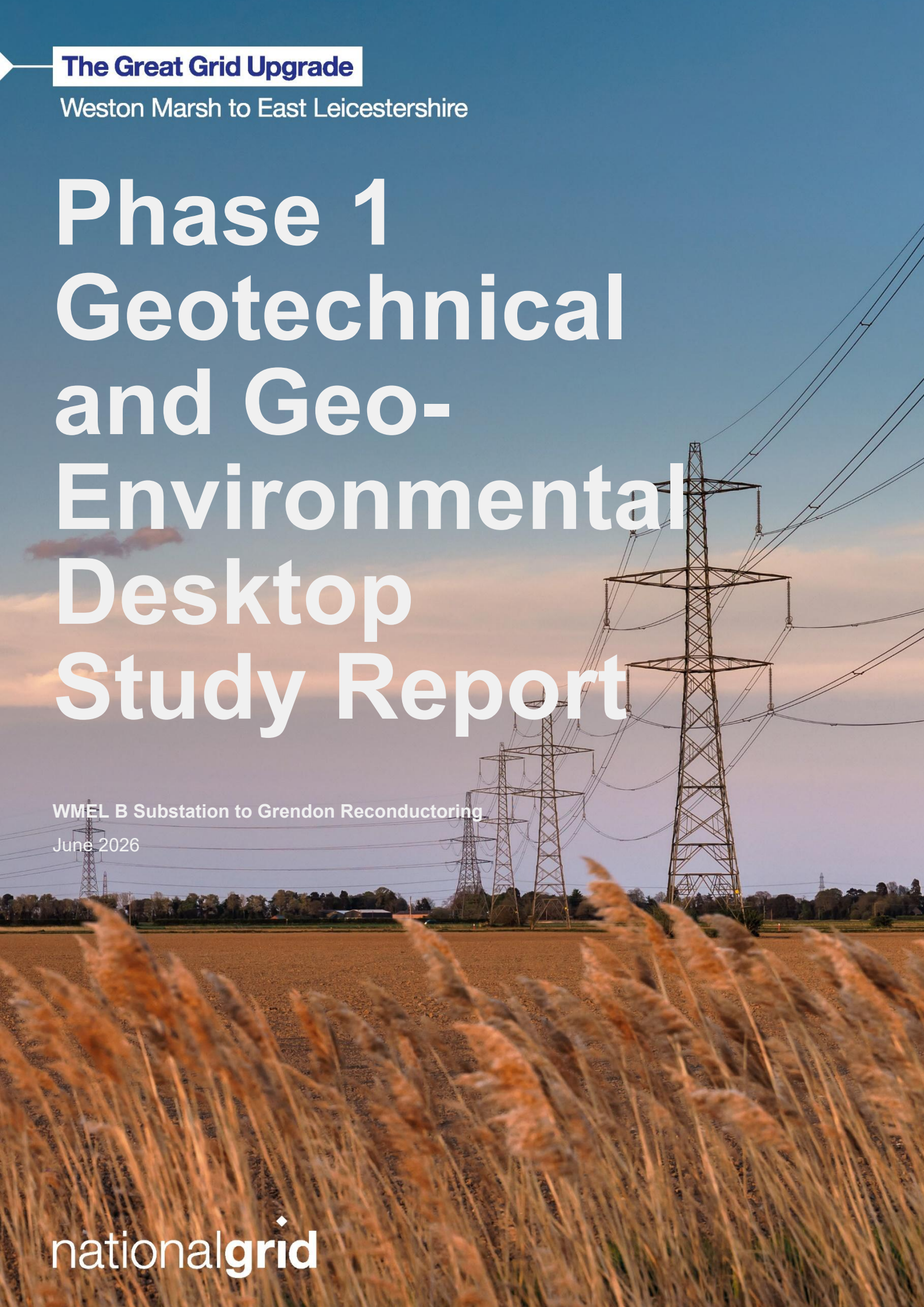
Appendix 11A Phase 1 Geotechnical and Geo- environmental Desktop Studies (12 of 12)

EN0210007

August 2026

nationalgrid

11A. Phase 1 Geotechnical and Geo- environmental Desktop Studies



The Great Grid Upgrade

Weston Marsh to East Leicestershire

Phase 1 Geotechnical and Geo- Environmental Desktop Study Report

WMEL B Substation to Grendon Reconductoring

June 2026

nationalgrid

Appendix A

Figures

Appendix A Figures

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Figure 3 – Published Superficial Geology and Artificial Ground

Figure 4 – Published Bedrock Geology and Artificial Ground

Figure 5 – Hydrogeology

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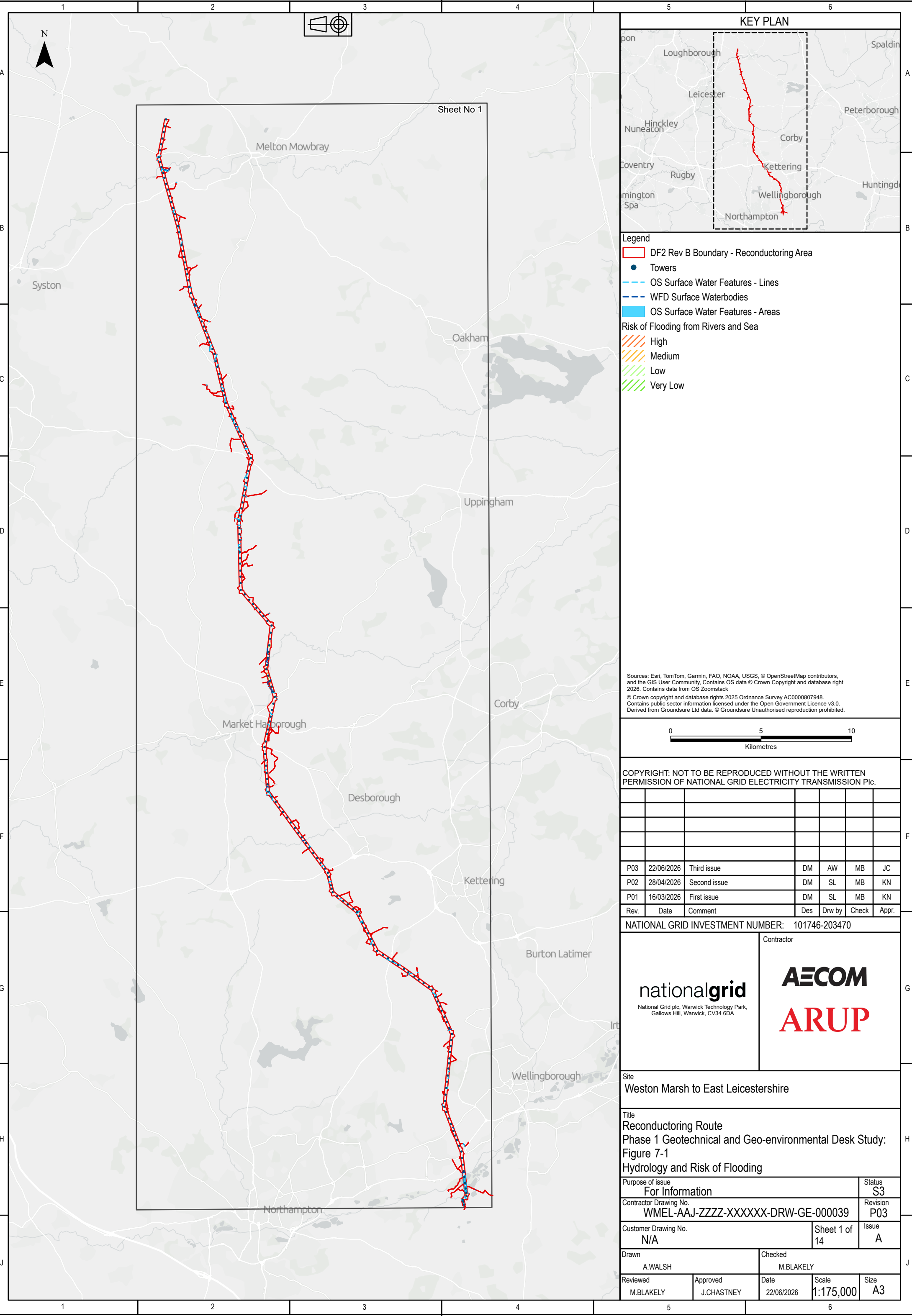
Figure 7 – Hydrology and Risk of Flooding

Figure 8 – Hydrology and Flooding

Figure 9 – Licensed Waste and Industrial Land Uses and Hazardous Substances

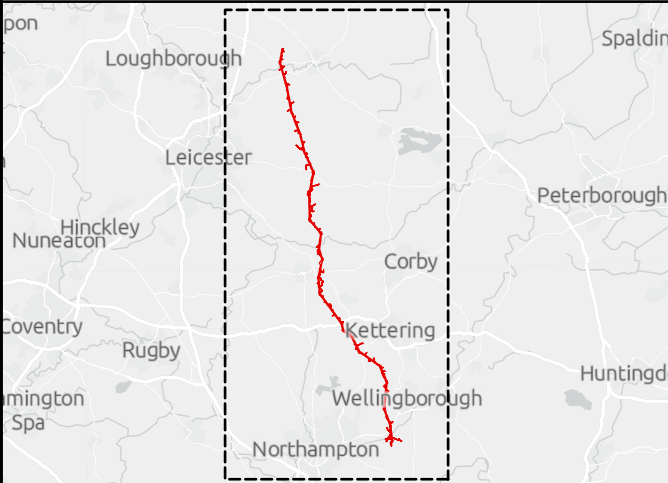
Figure 10 – Anticipated Geotechnical Hazards and Constraints

Figure 11 – Radon Risk



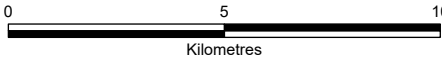
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KEY PLAN



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea
- High
 - Medium
 - Low
 - Very Low

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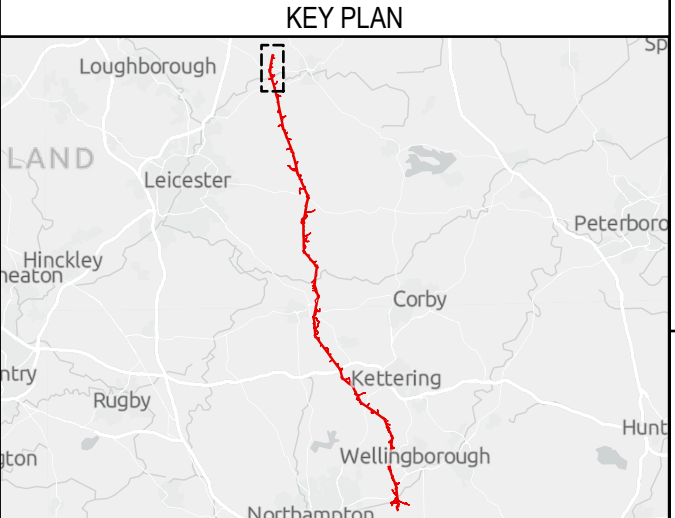
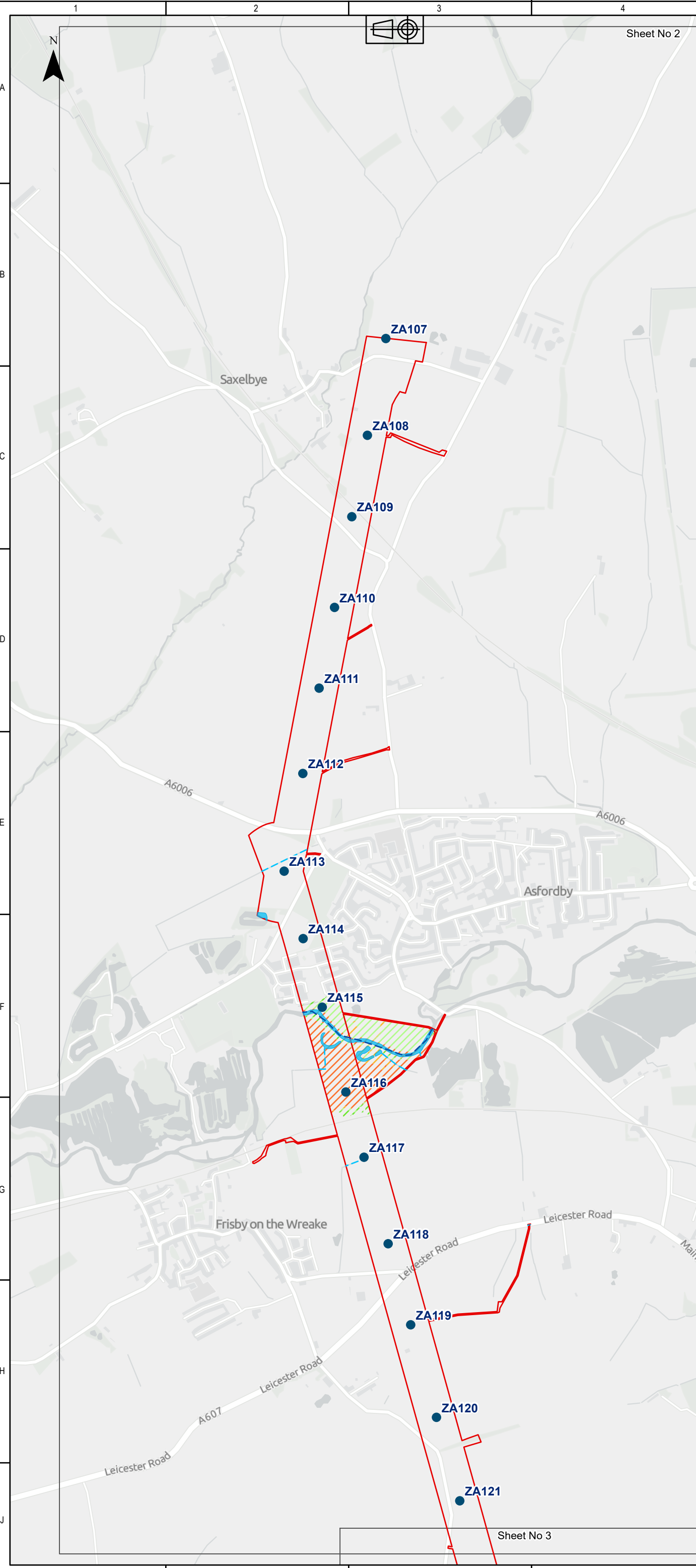
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-1
Hydrology and Risk of Flooding

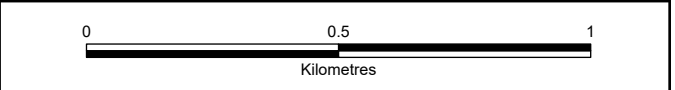
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- Legend
- DF2 Rev B Boundary - Reconductoring Area
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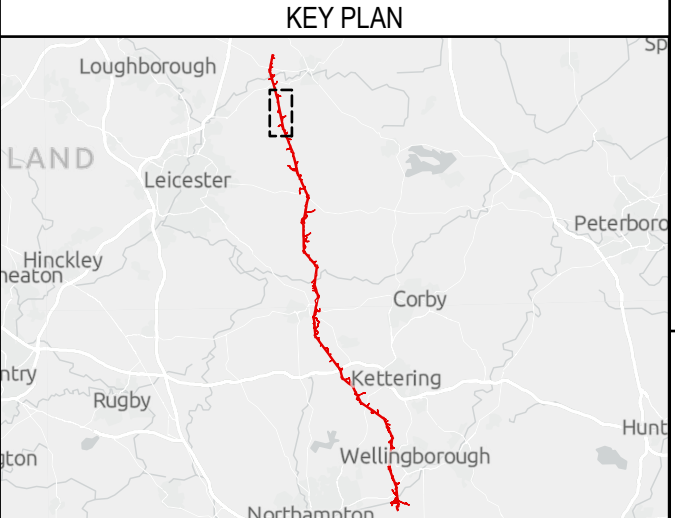
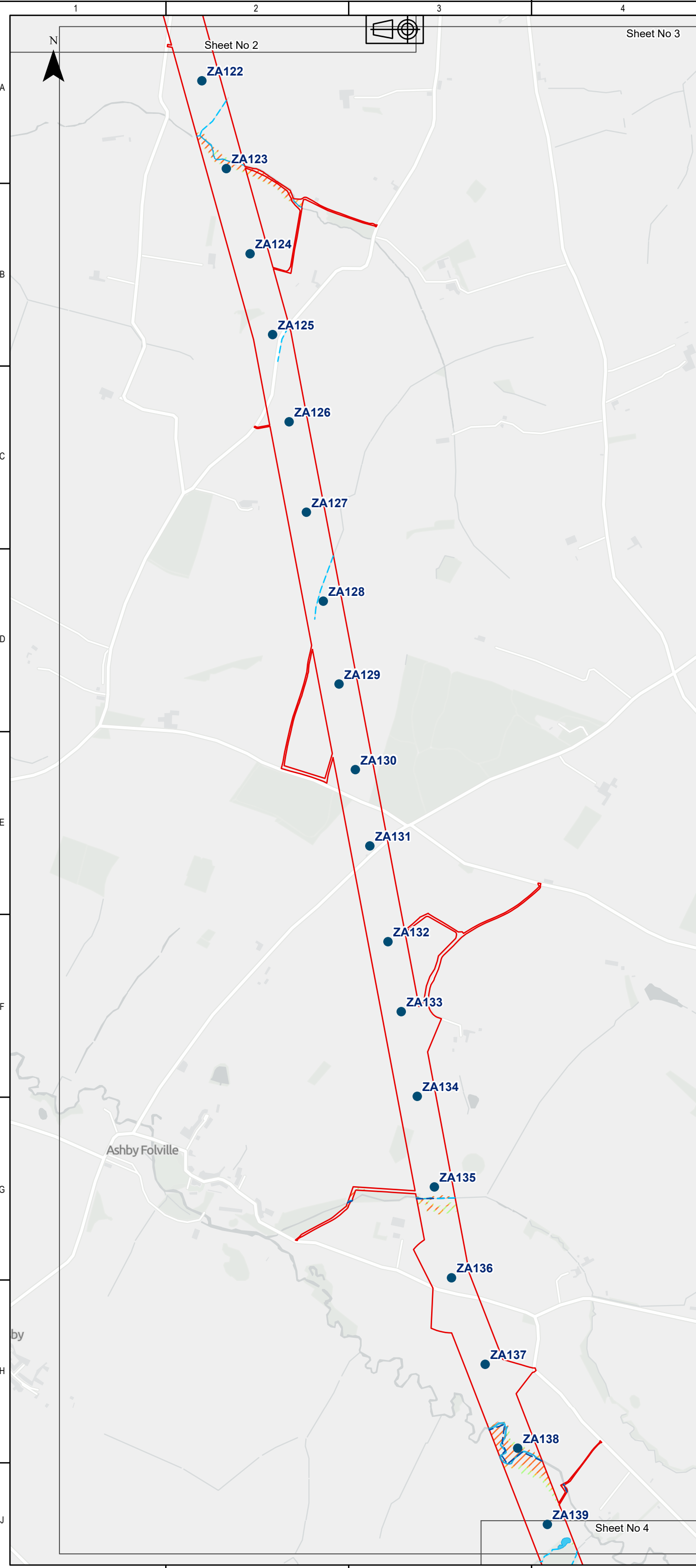
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Site
Weston Marsh to East Leicestershire

Title
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Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-2
Hydrology and Risk of Flooding

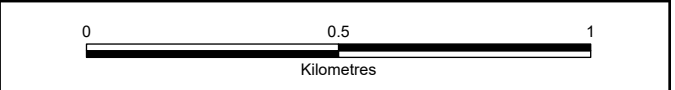
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea**
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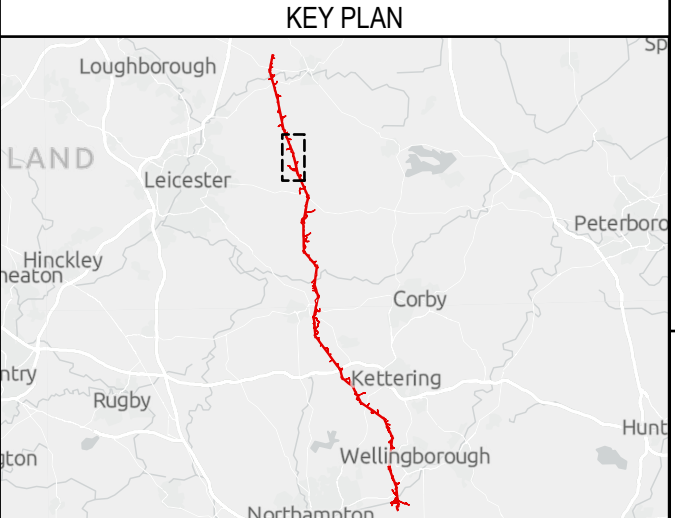
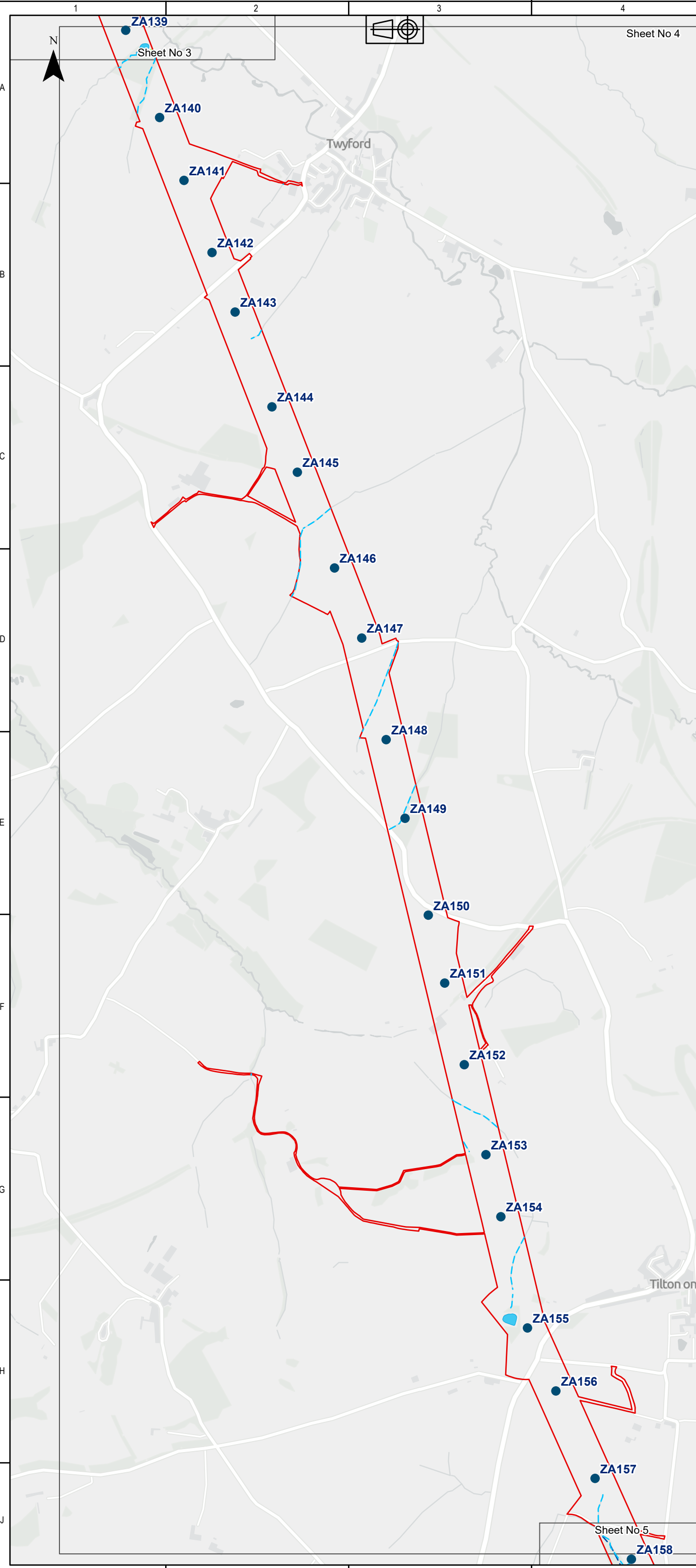
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Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-3
Hydrology and Risk of Flooding

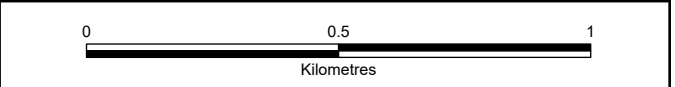
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- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea
- High
 - Medium
 - Low
 - Very Low

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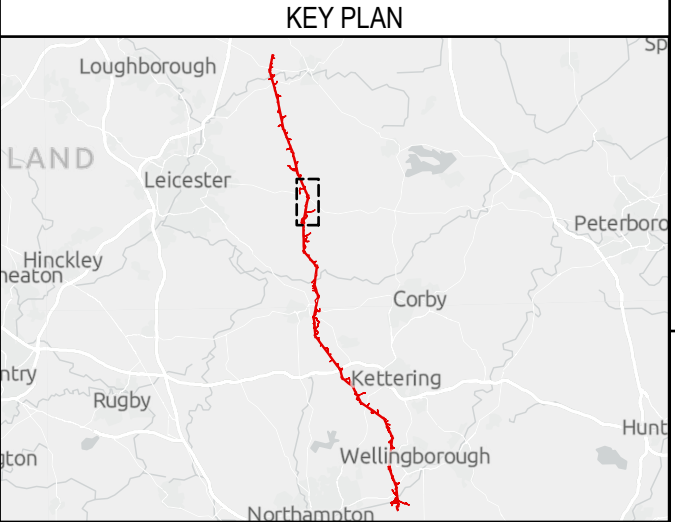
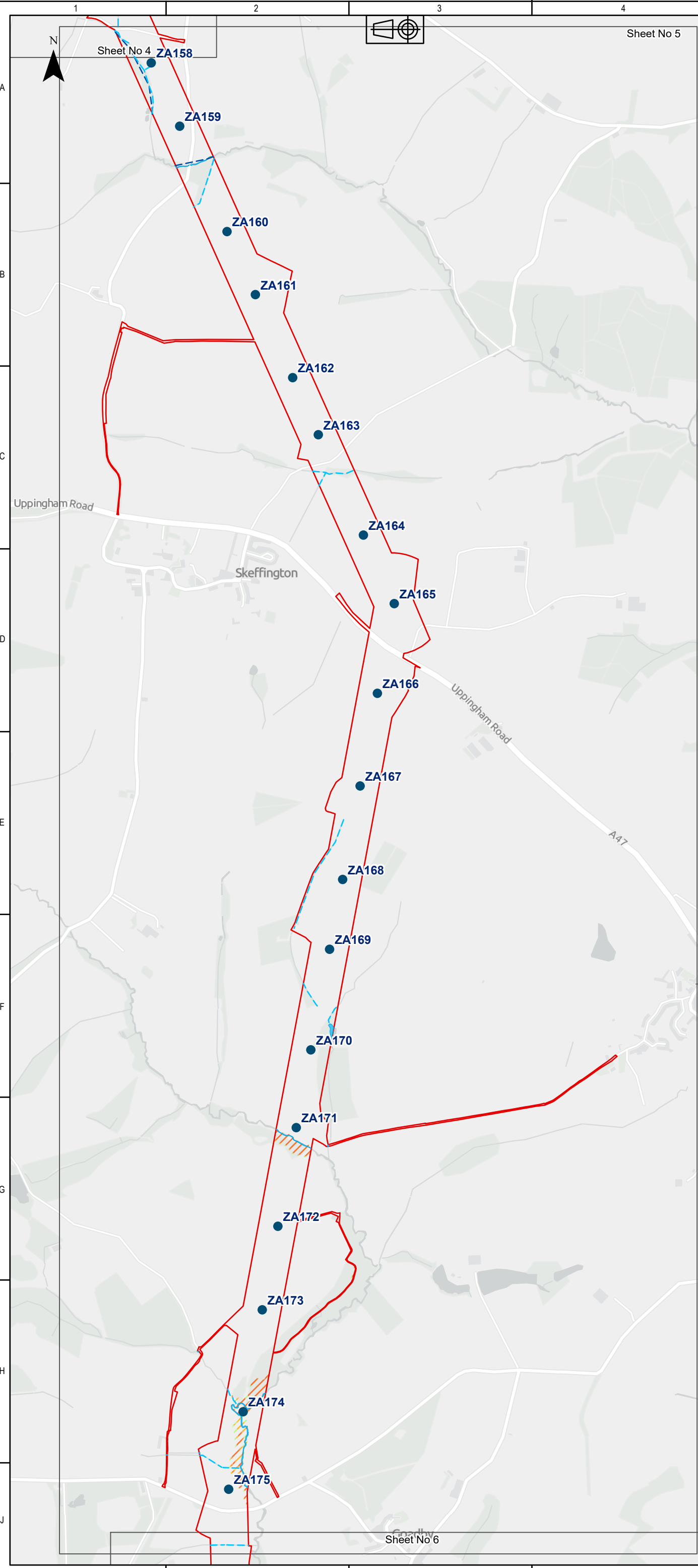
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Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-4
Hydrology and Risk of Flooding

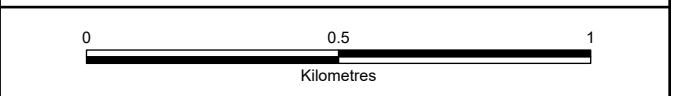
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- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea
- High
 - Medium
 - Low

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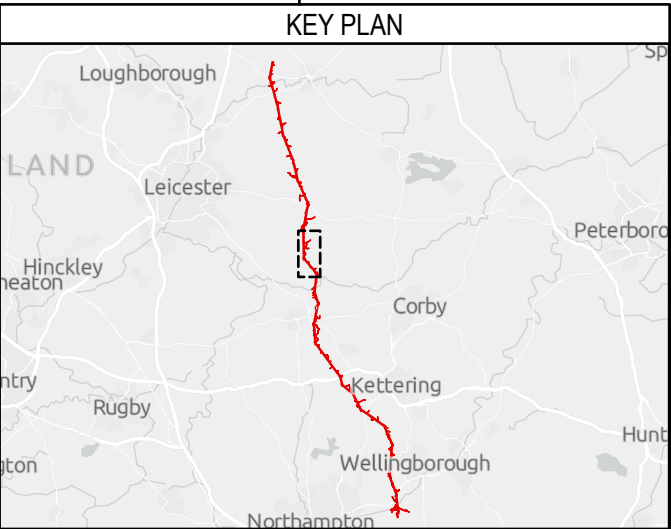
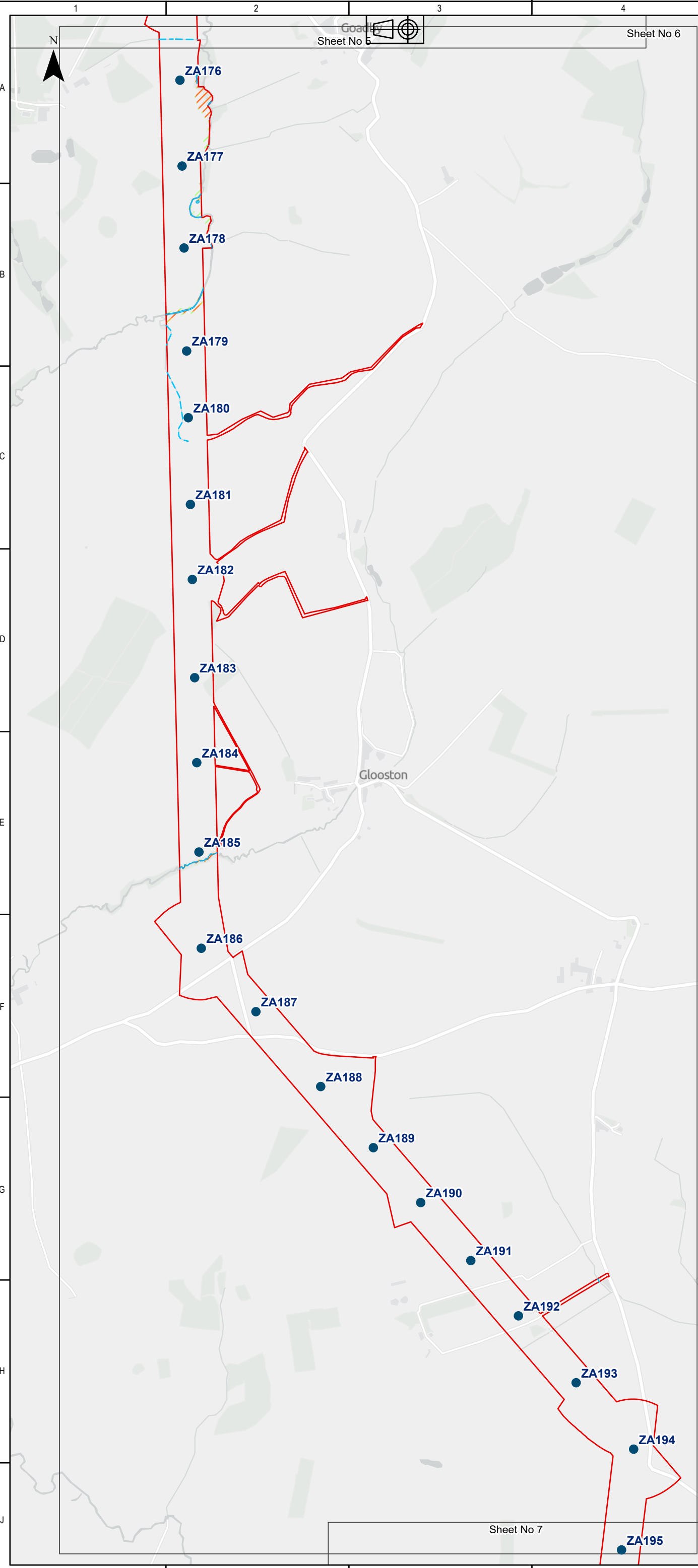
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Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-5
Hydrology and Risk of Flooding

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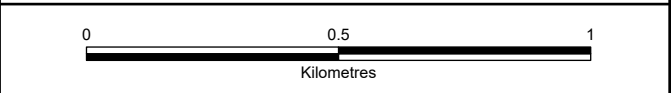
- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines
- OS Surface Water Features - Areas

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low

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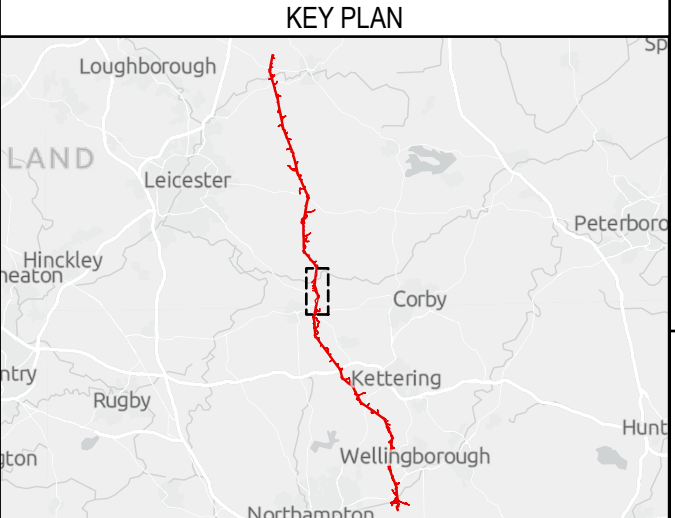
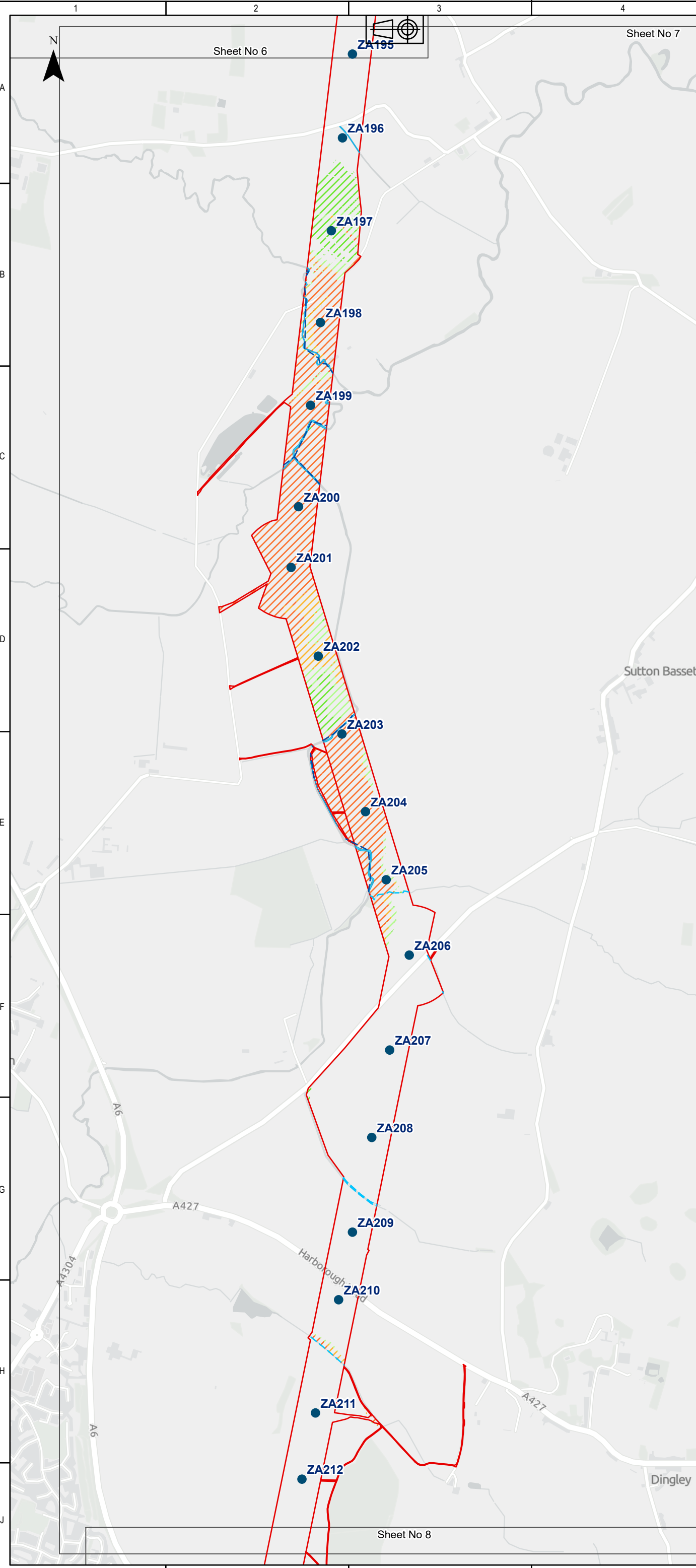
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Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-6
Hydrology and Risk of Flooding

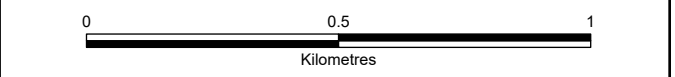
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea**
- High
 - Medium
 - Low
 - Very Low

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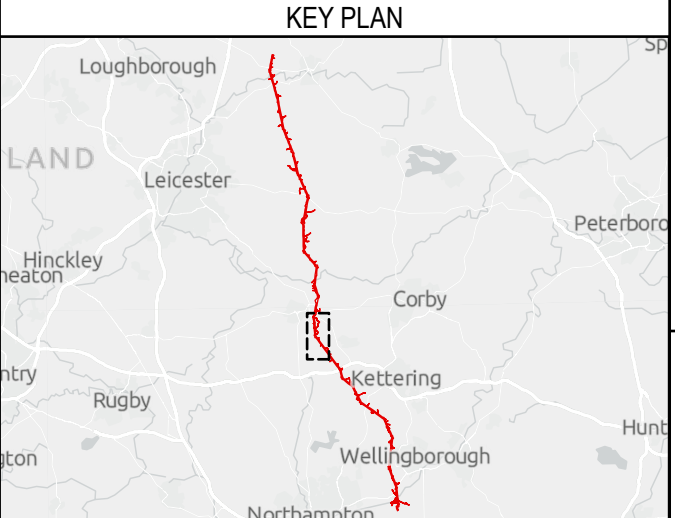
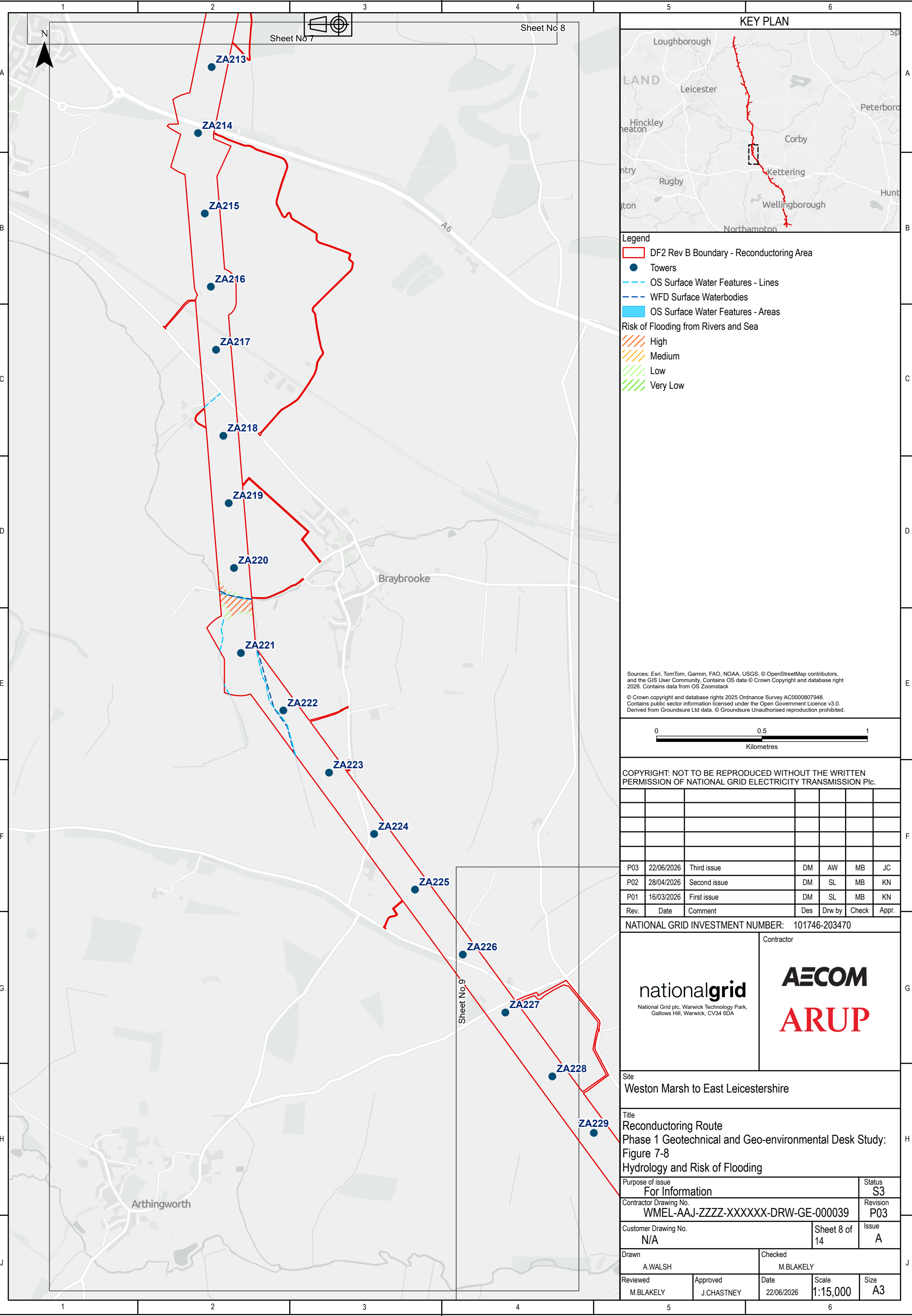
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-7
Hydrology and Risk of Flooding

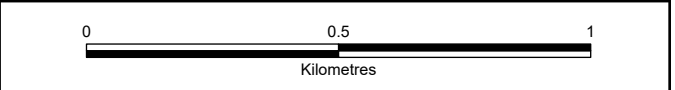
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea**
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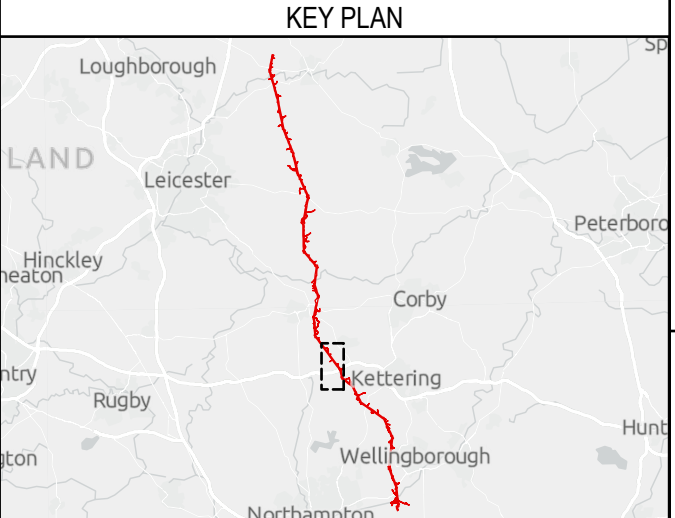
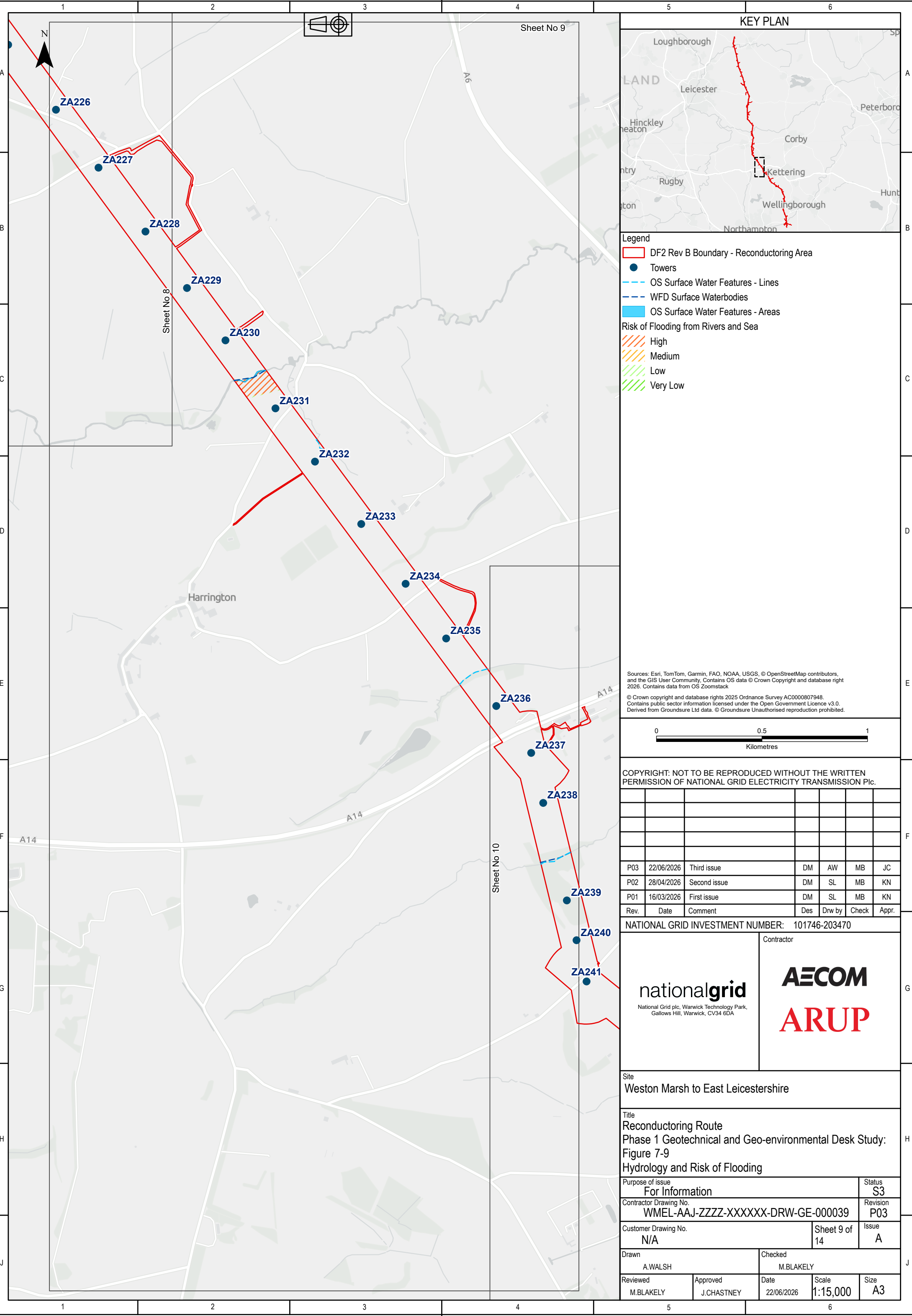
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-8
Hydrology and Risk of Flooding

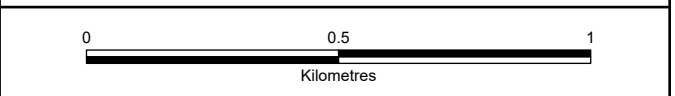
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea**
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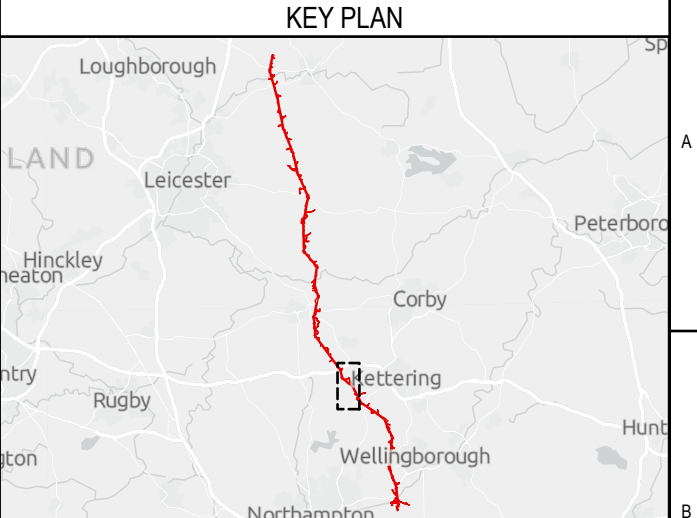
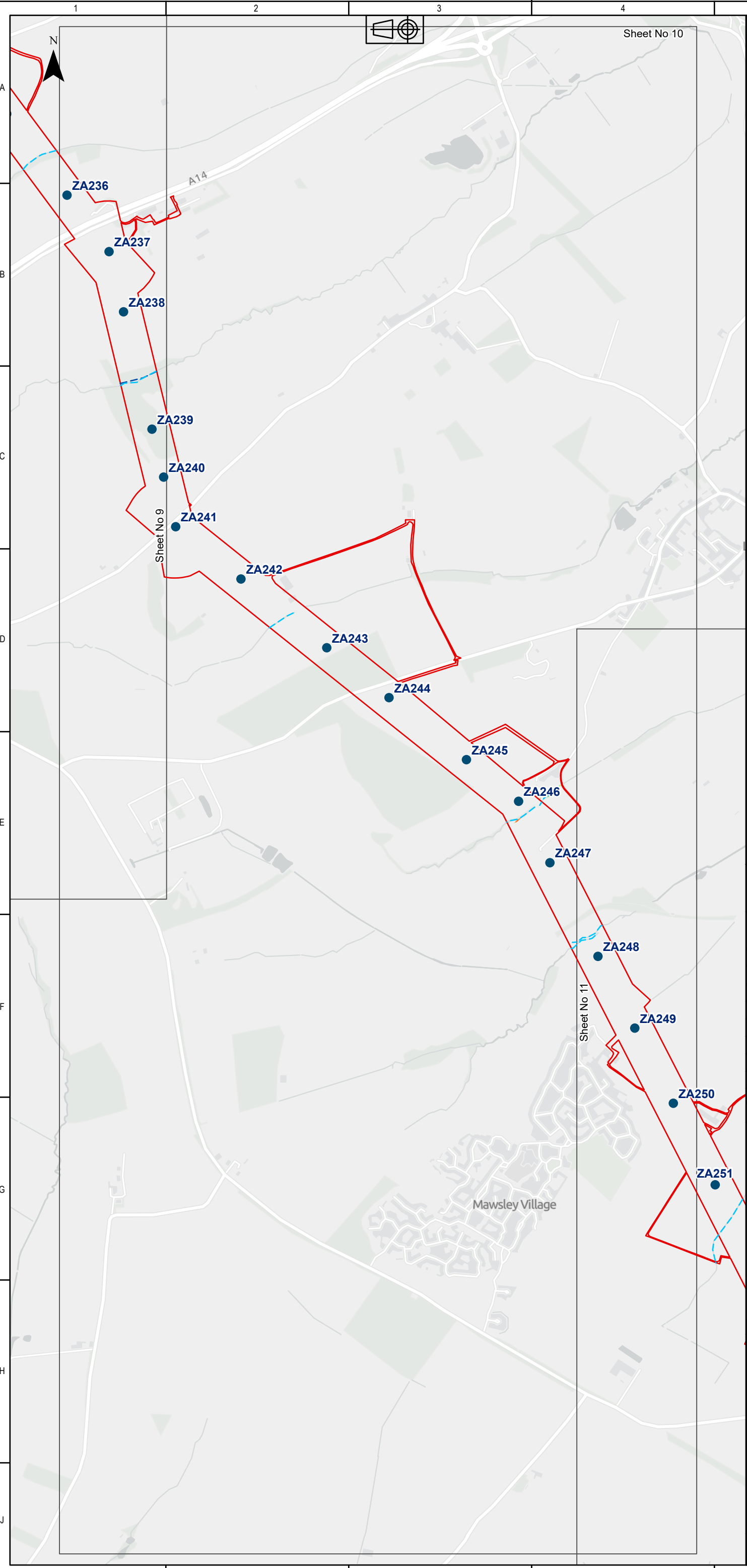
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-9
Hydrology and Risk of Flooding

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Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines
- WFD Surface Waterbodies

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low

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Site

Weston Marsh to East Leicestershire

Title

Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-10
Hydrology and Risk of Flooding

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J.CHASTNEY

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Scale

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Size

A3

Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines
- WFD Surface Waterbodies

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low

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NATIONAL GRID INVESTMENT NUMBER: 101746-203470

nationalgrid

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

AECOM

ARUP

Contractor

Site

Weston Marsh to East Leicestershire

Title

Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-10
Hydrology and Risk of Flooding

Purpose of issue

For Information

Status

S3

Contractor Drawing No.

WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000039

Revision

P03

Customer Drawing No.

N/A

Sheet 10 of 14

Issue

A

Drawn

A.WALSH

Checked

M.BLAKEY

Reviewed

M.BLAKEY

Approved

J.CHASTNEY

Date

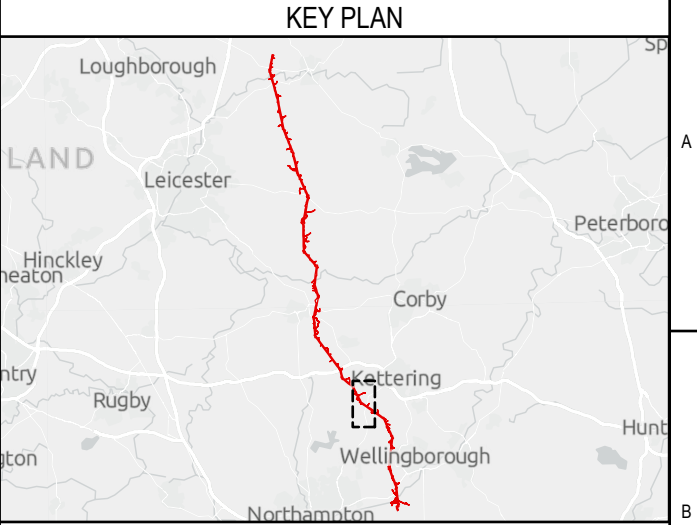
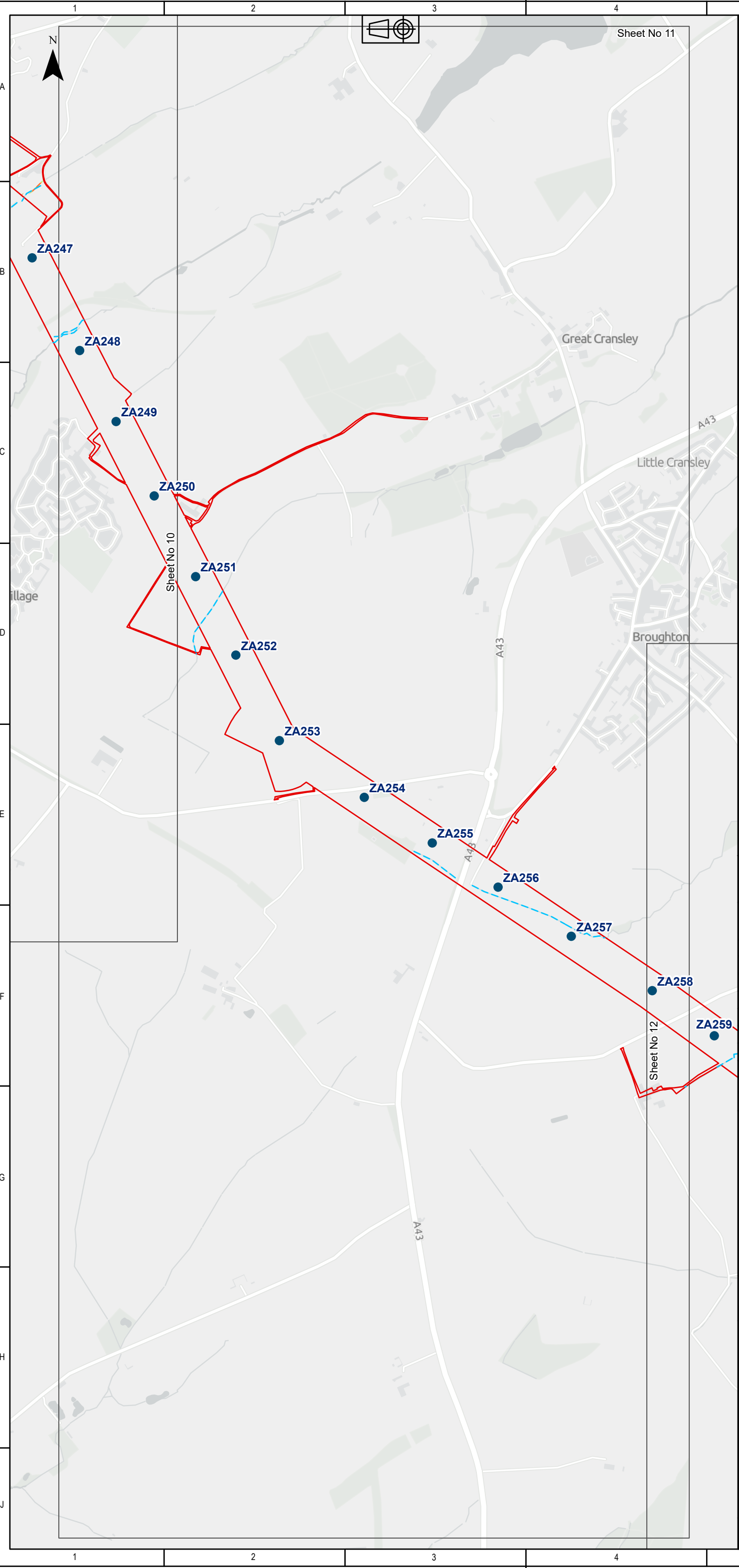
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Scale

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Size

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Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low

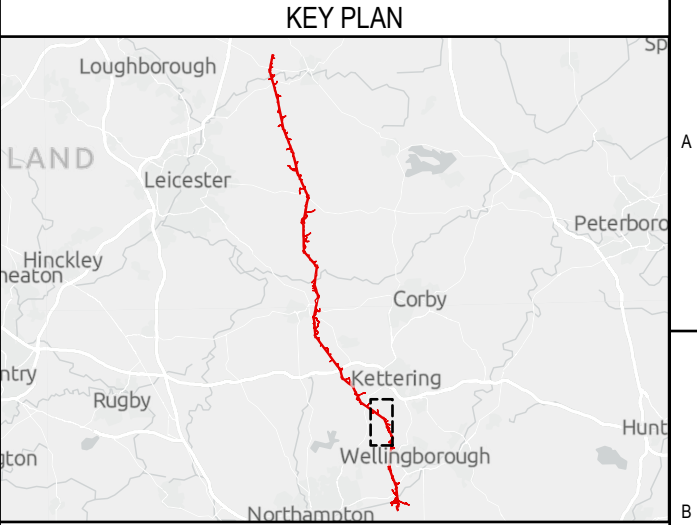
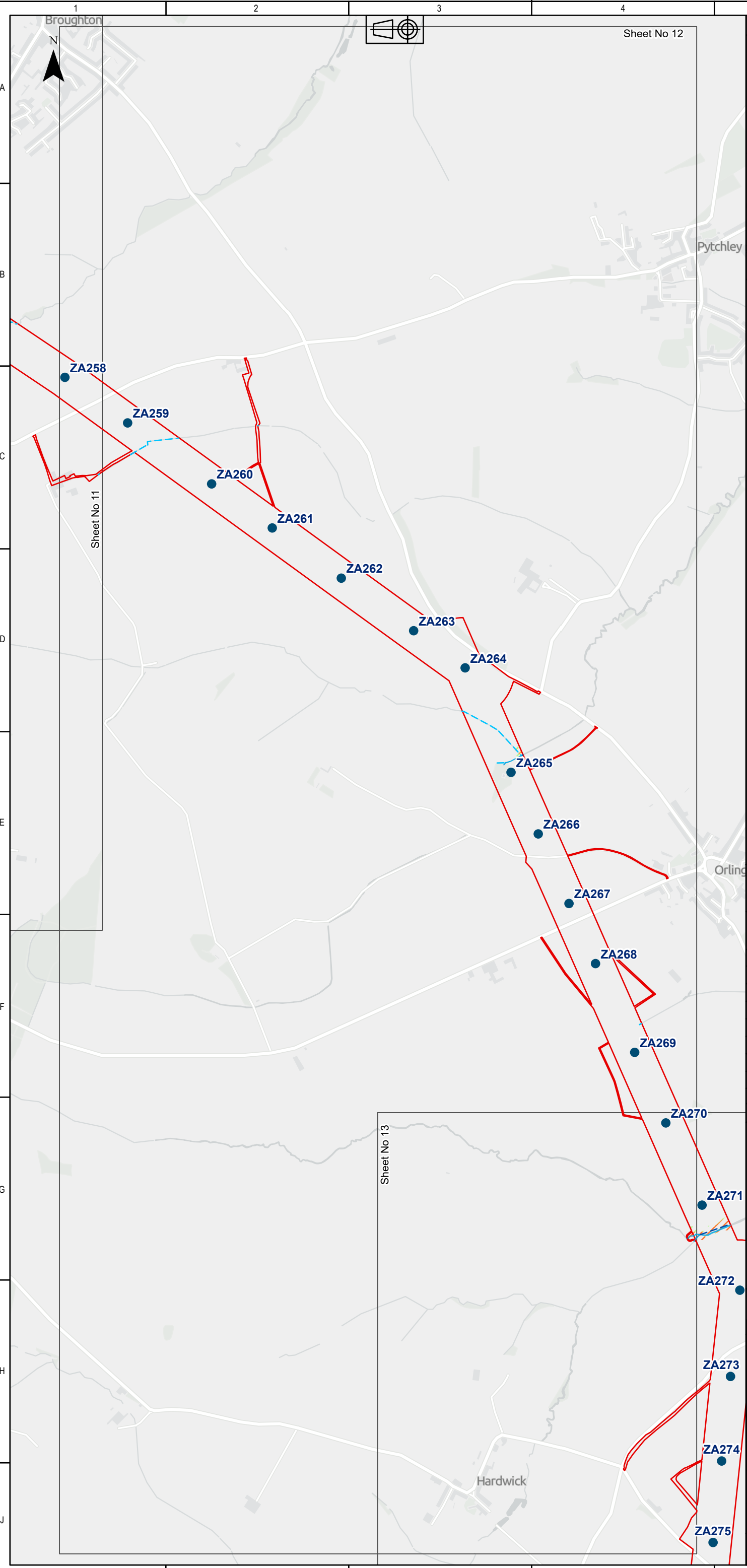
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NATIONAL GRID INVESTMENT NUMBER: 101746-203470							
nationalgrid National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			Contractor				
			AECOM ARUP				
Site Weston Marsh to East Leicestershire							
Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 7-11 Hydrology and Risk of Flooding							
Purpose of issue For Information						Status S3	
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000039						Revision P03	
Customer Drawing No. N/A				Sheet 11 of 14		Issue A	
Drawn A.WALSH			Checked M.BLAKEY				
Reviewed M.BLAKEY		Approved J.CHASTNEY		Date 22/06/2026		Scale 1:15,000	
						Size A3	



Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines
- WFD Surface Waterbodies
- OS Surface Water Features - Areas

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low

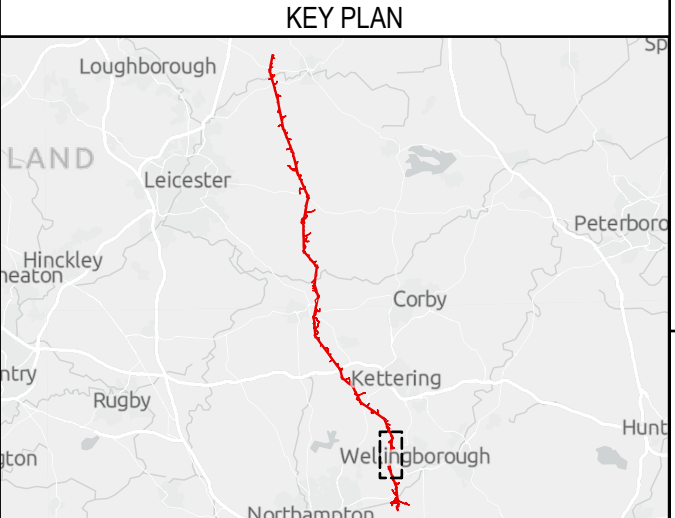
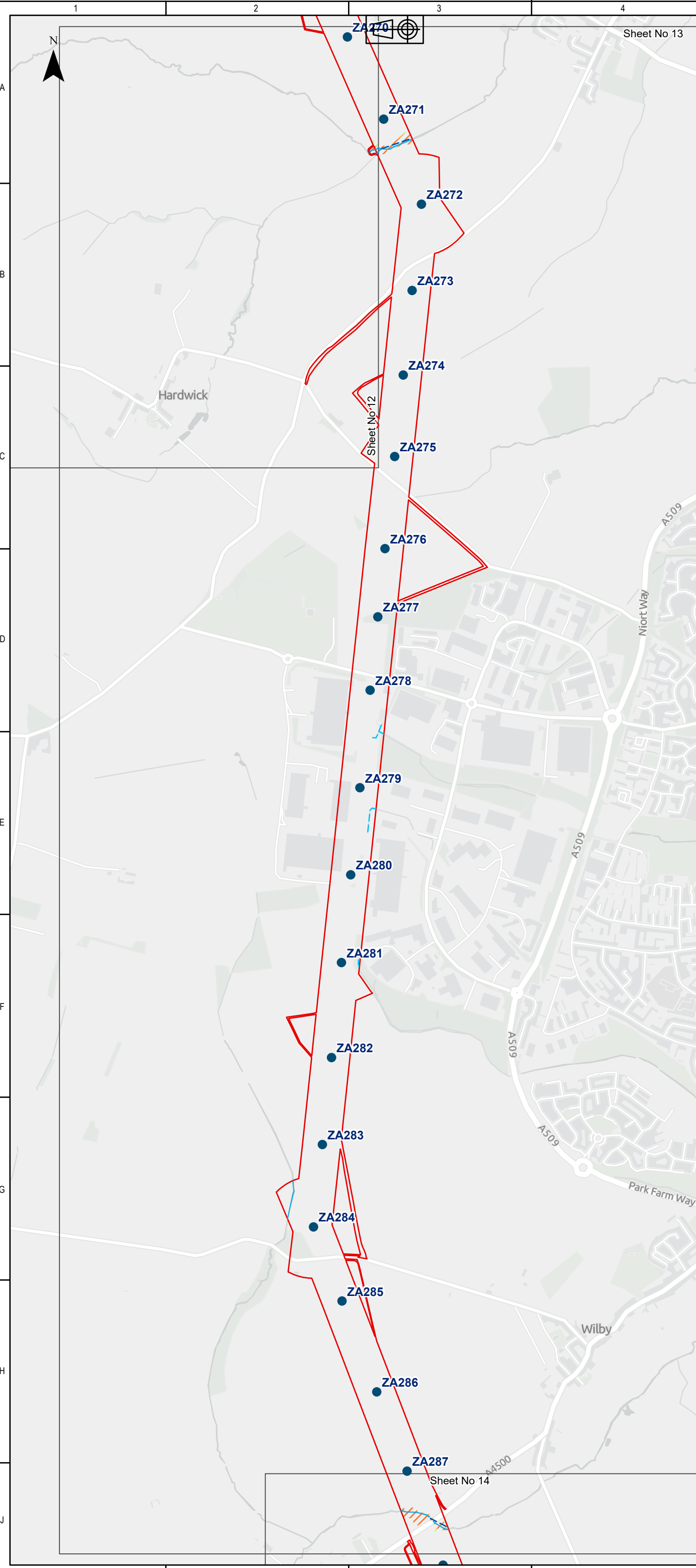
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nationalgrid National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			Contractor AECOM ARUP			
Site Weston Marsh to East Leicestershire						
Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 7-12 Hydrology and Risk of Flooding						
Purpose of issue For Information					Status S3	
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000039					Revision P03	
Customer Drawing No. N/A				Sheet 12 of 14		Issue A
Drawn A.WALSH			Checked M.BLAKEY			
Reviewed M.BLAKEY	Approved J.CHASTNEY		Date 22/06/2026	Scale 1:15,000	Size A3	



Legend

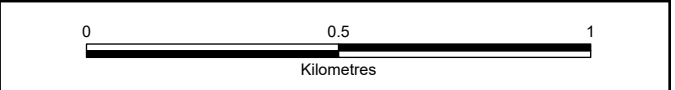
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- Towers
- OS Surface Water Features - Lines
- WFD Surface Waterbodies
- OS Surface Water Features - Areas

Risk of Flooding from Rivers and Sea

- High
- Medium
- Low
- Very Low

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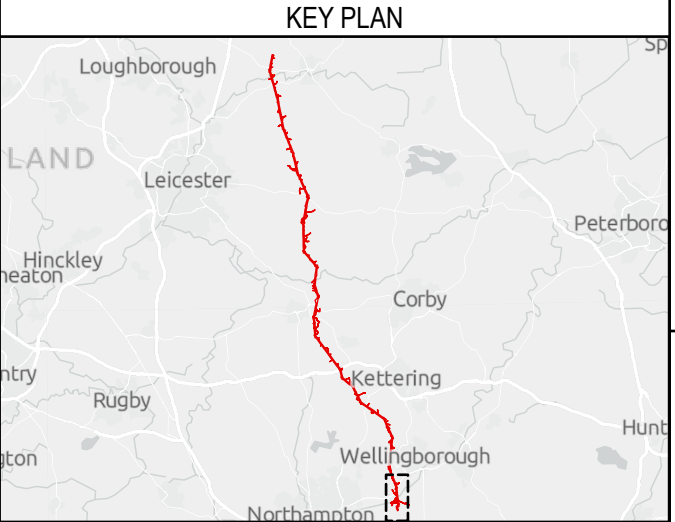
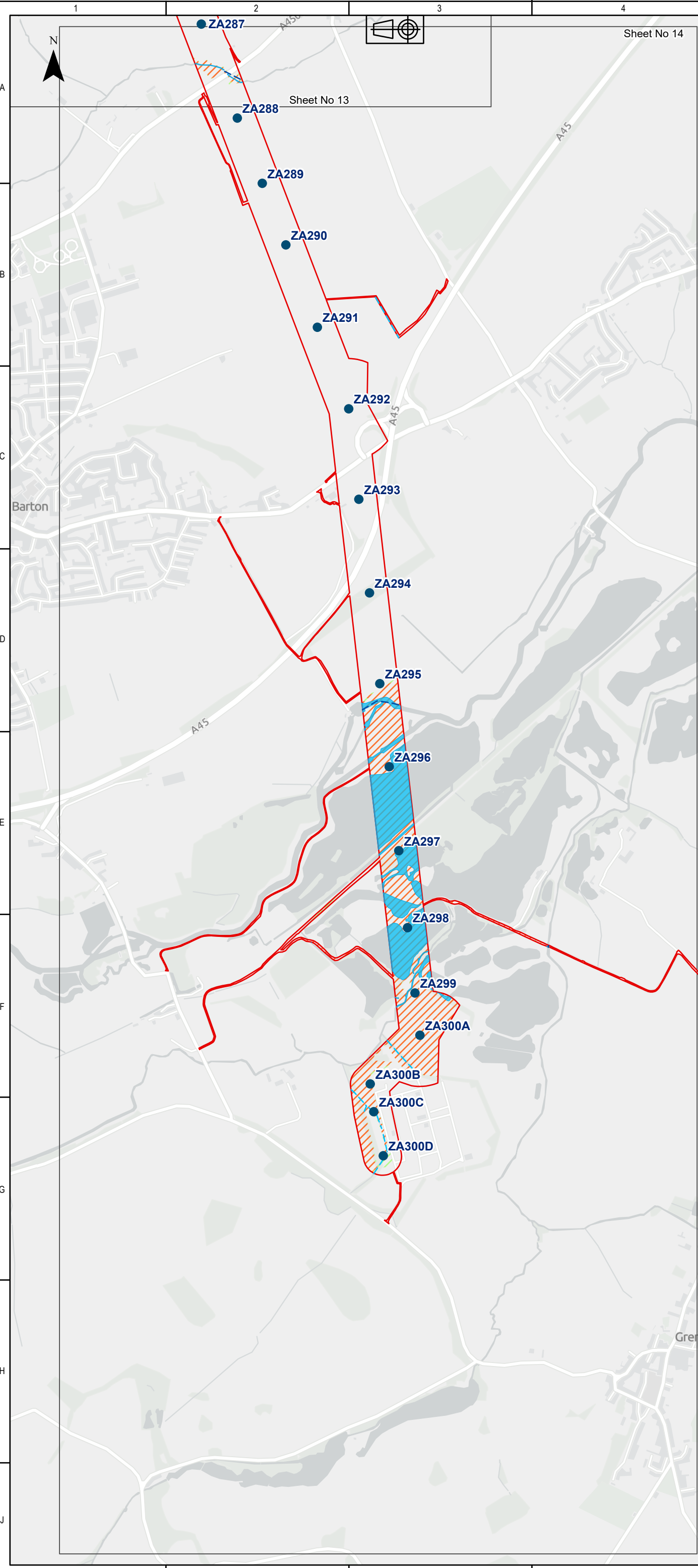
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Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-13
Hydrology and Risk of Flooding

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000039				Revision P03
Customer Drawing No. N/A			Sheet 13 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
- Risk of Flooding from Rivers and Sea**
- High
 - Medium
 - Low
 - Very Low

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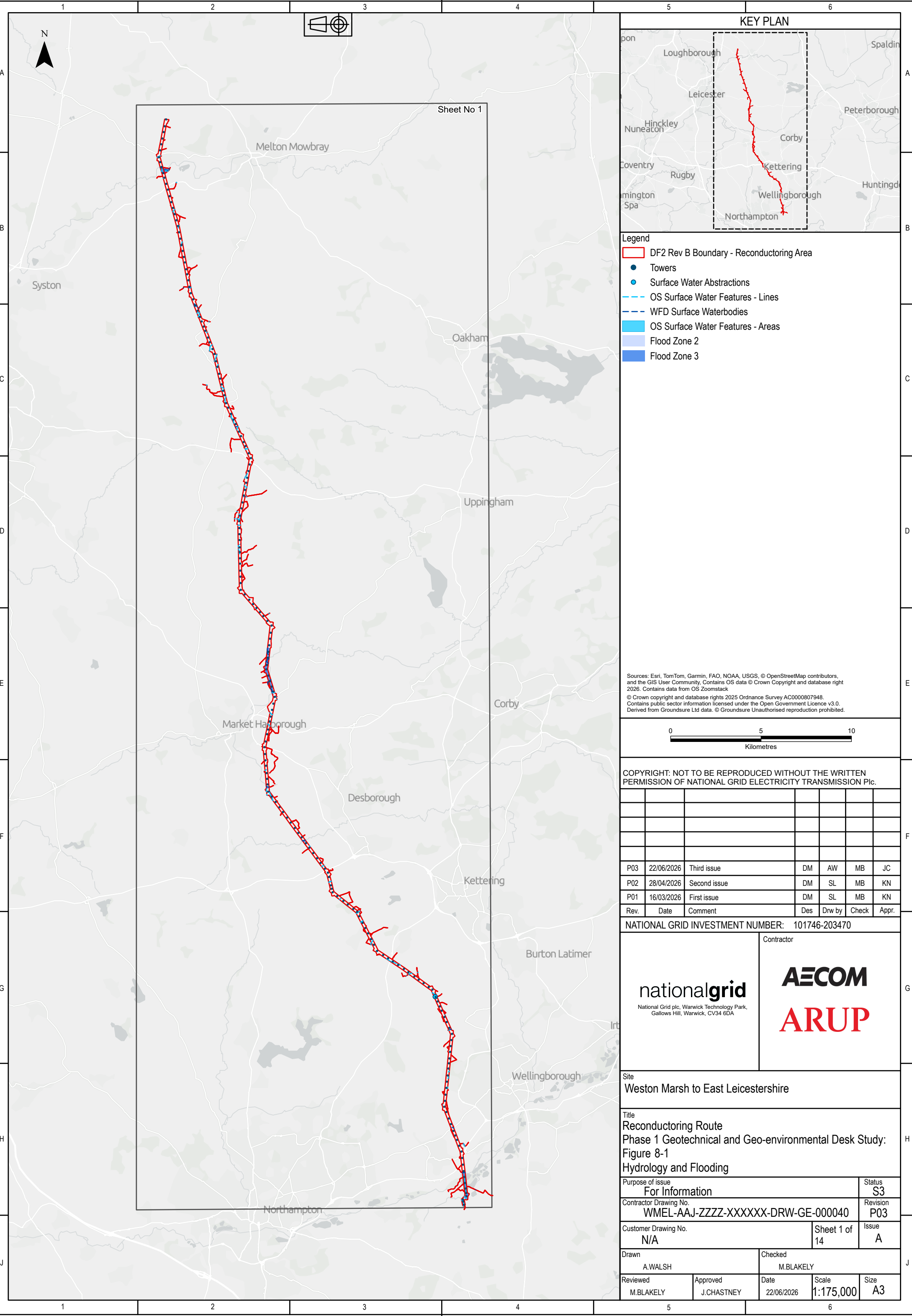
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Contractor

Site
Weston Marsh to East Leicestershire

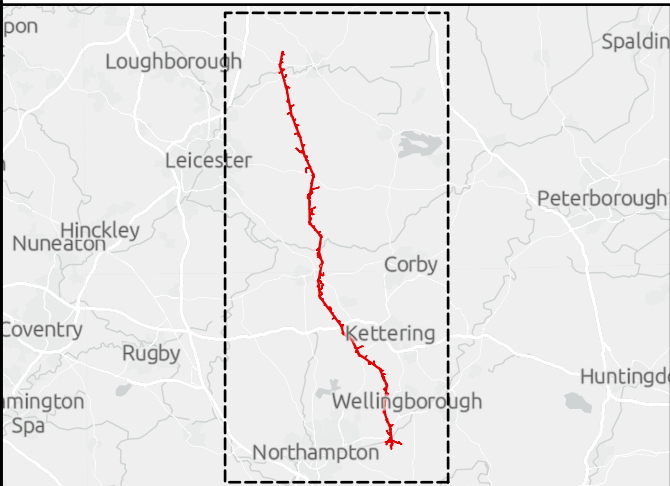
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 7-14
Hydrology and Risk of Flooding

Purpose of issue For Information				Status S3	
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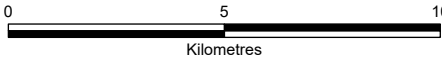
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KEY PLAN



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Surface Water Abstractions
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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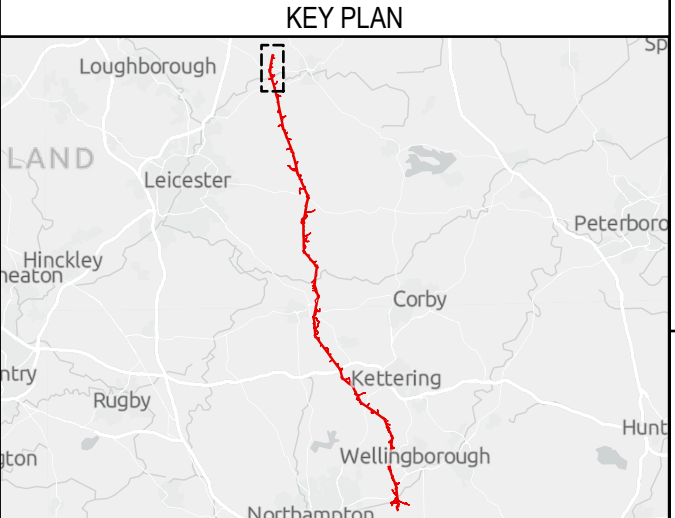
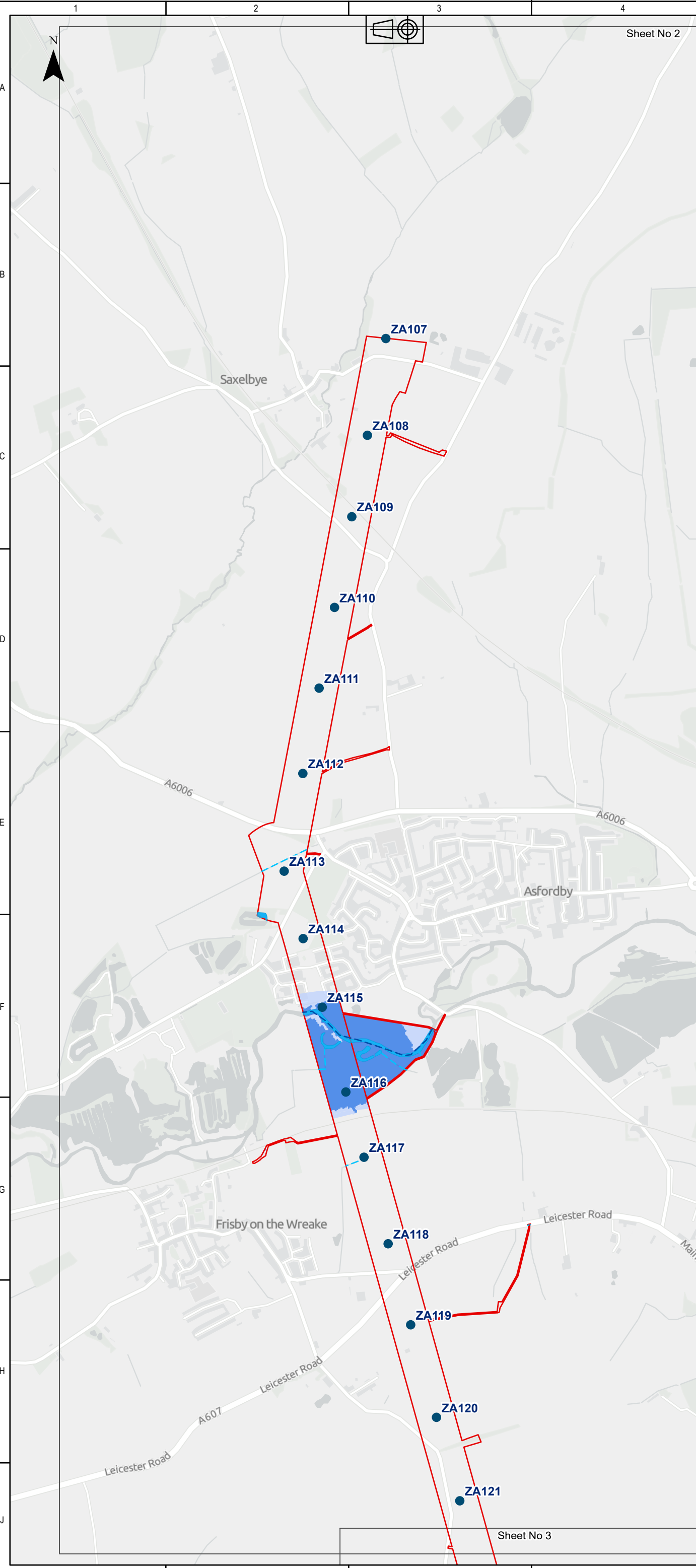
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Site
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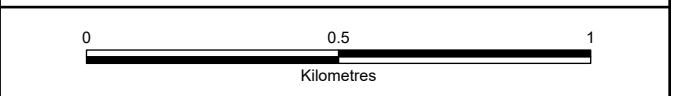
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-1
Hydrology and Flooding

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Customer Drawing No. N/A			Sheet 1 of 14	Issue A
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- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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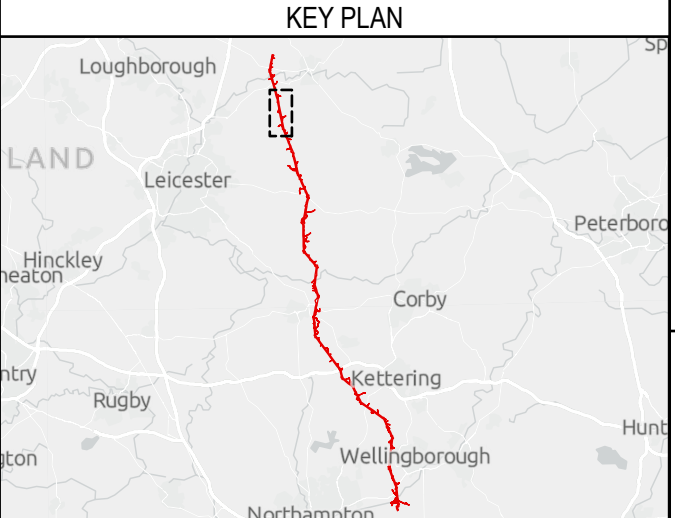
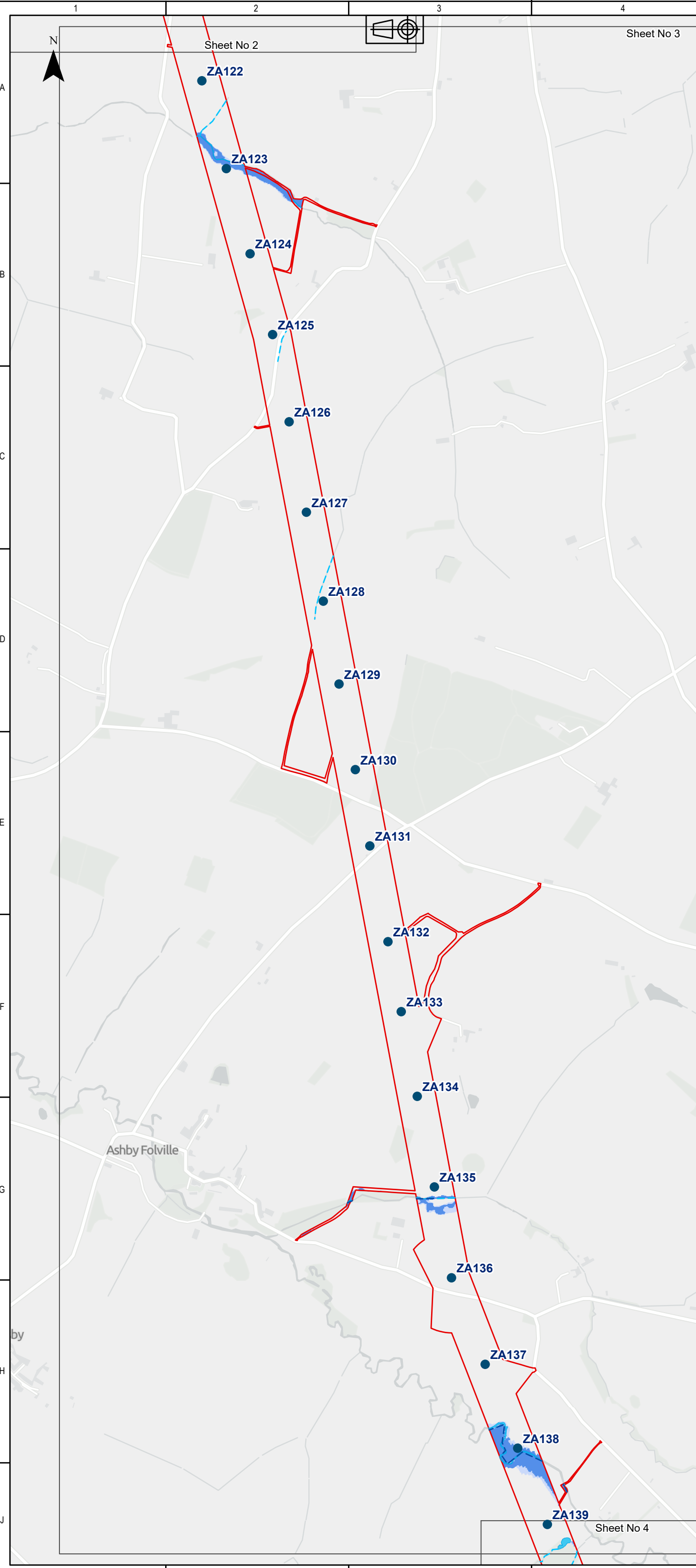
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Contractor

Site
Weston Marsh to East Leicestershire

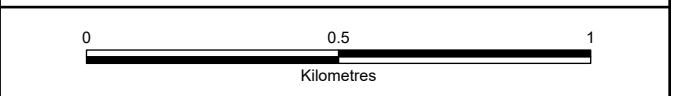
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-2
Hydrology and Flooding

Purpose of issue For Information				Status S3
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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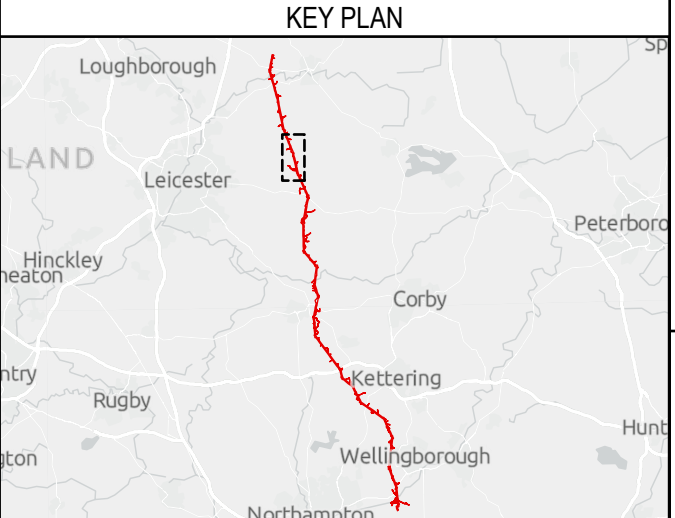
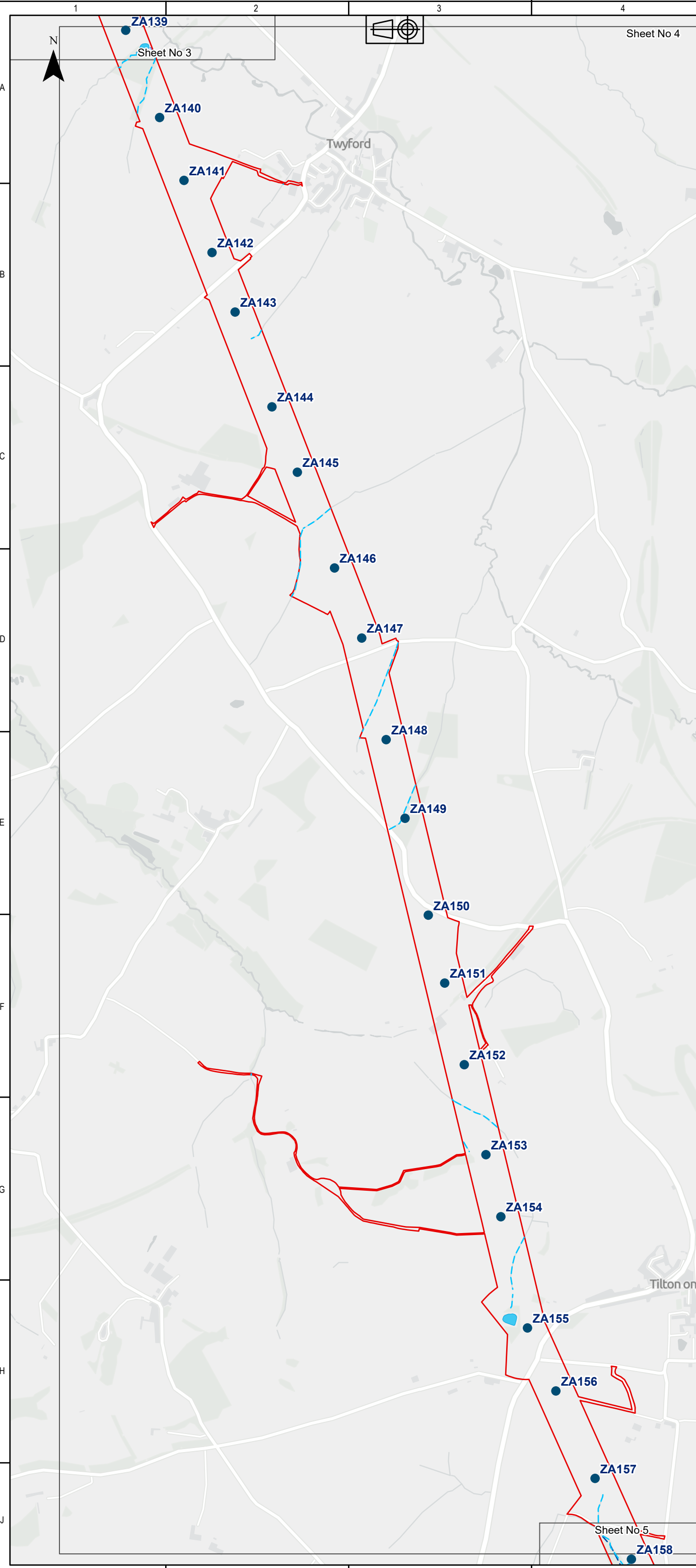
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-3
Hydrology and Flooding

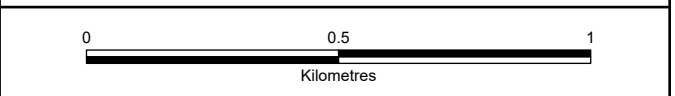
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- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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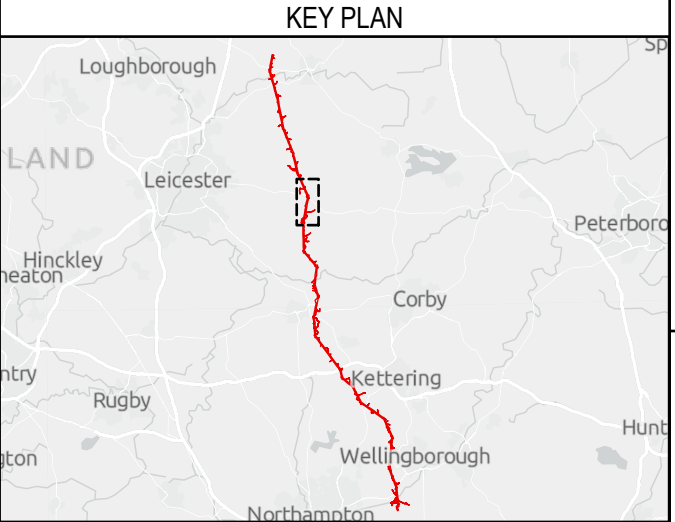
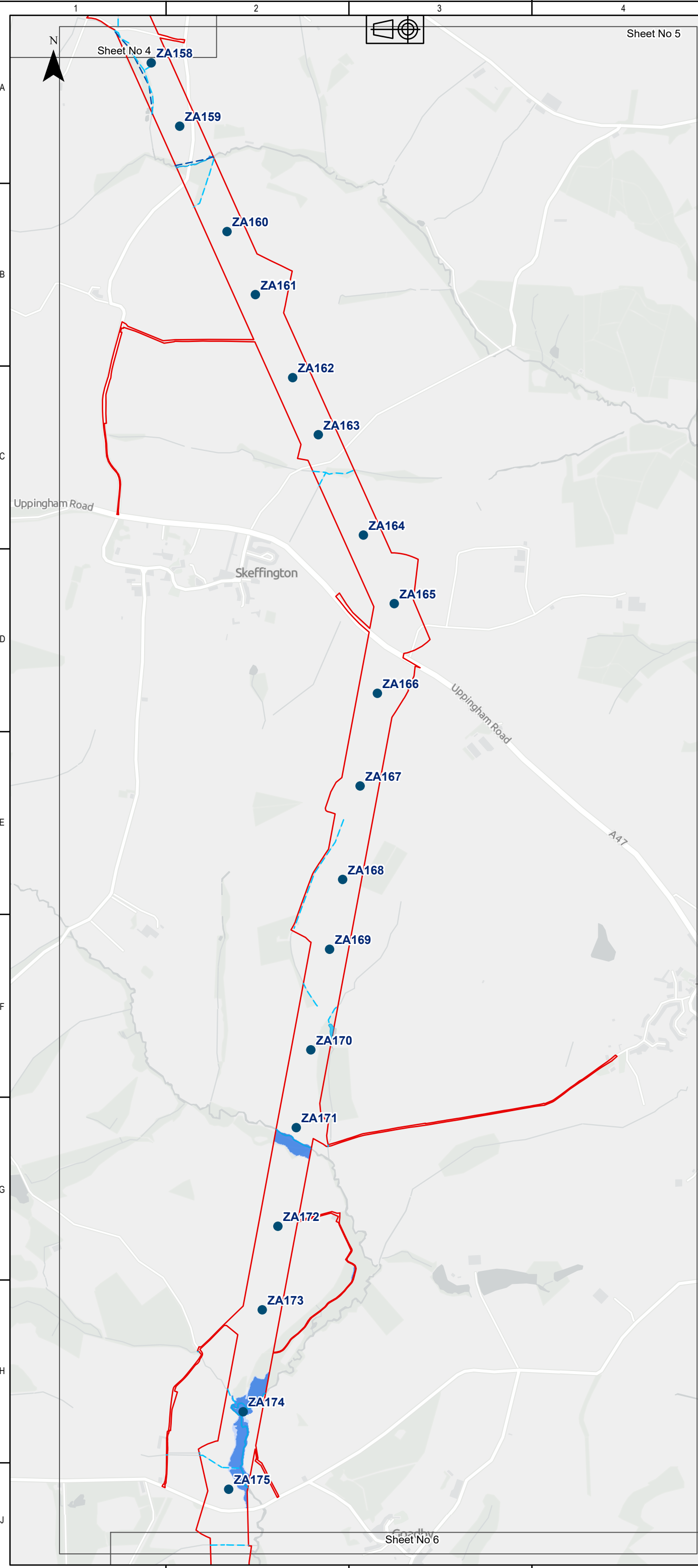
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Contractor

Site
Weston Marsh to East Leicestershire

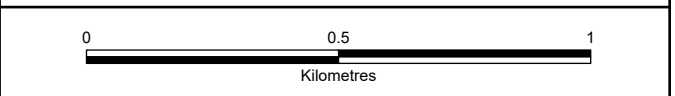
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Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-4
Hydrology and Flooding

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- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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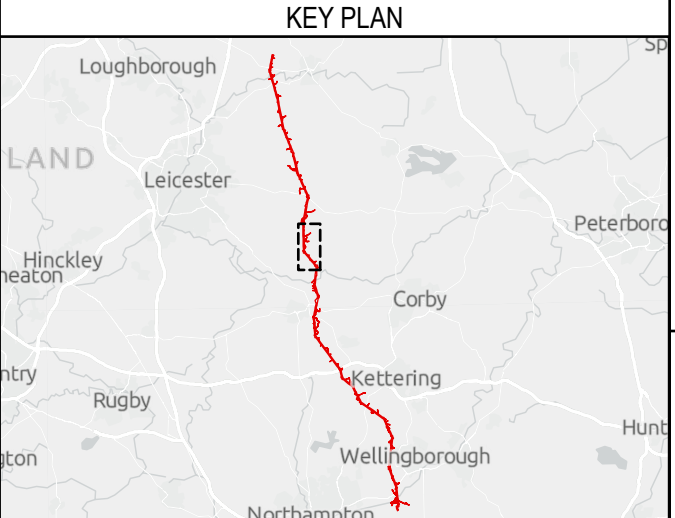
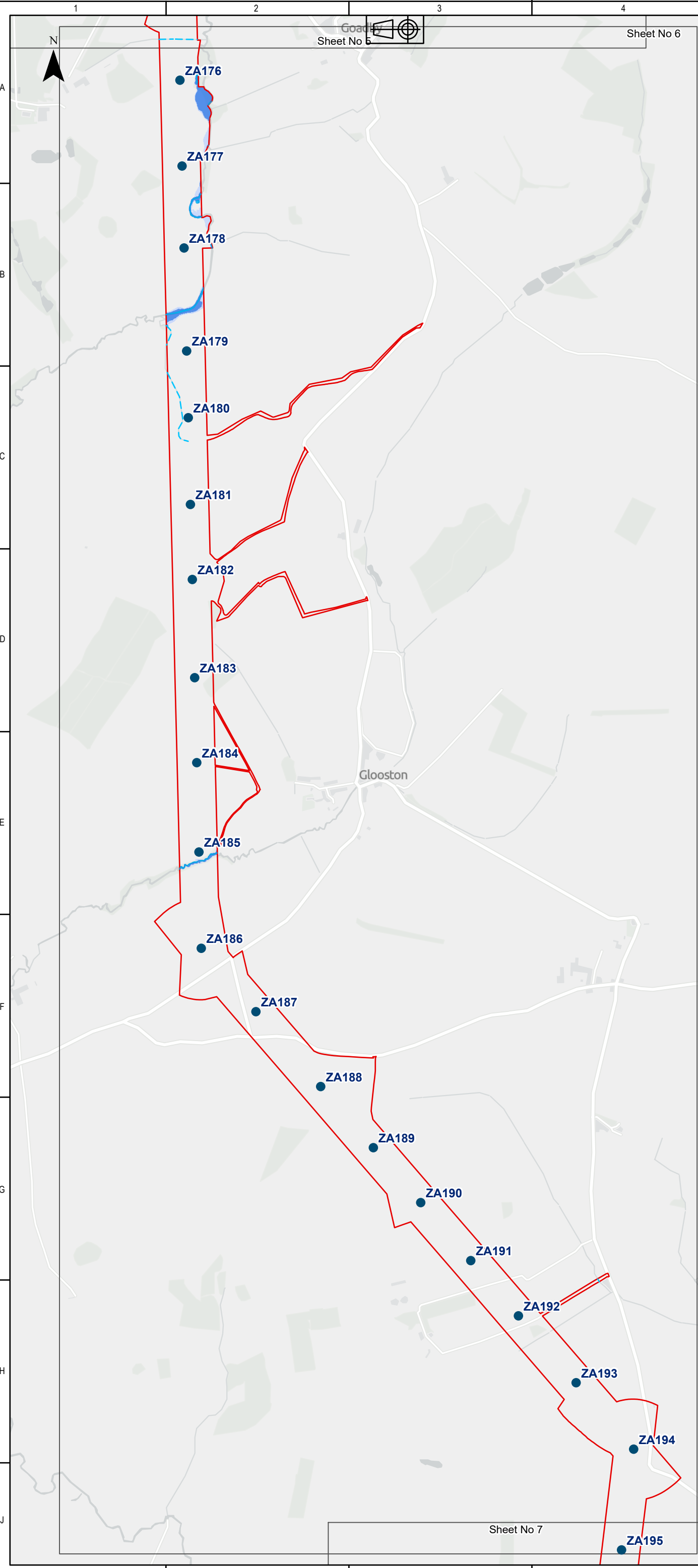
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Contractor

Site
Weston Marsh to East Leicestershire

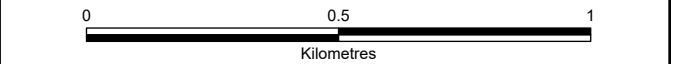
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-5
Hydrology and Flooding

Purpose of issue For Information				Status S3
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Customer Drawing No. N/A			Sheet 5 of 14	Issue A
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Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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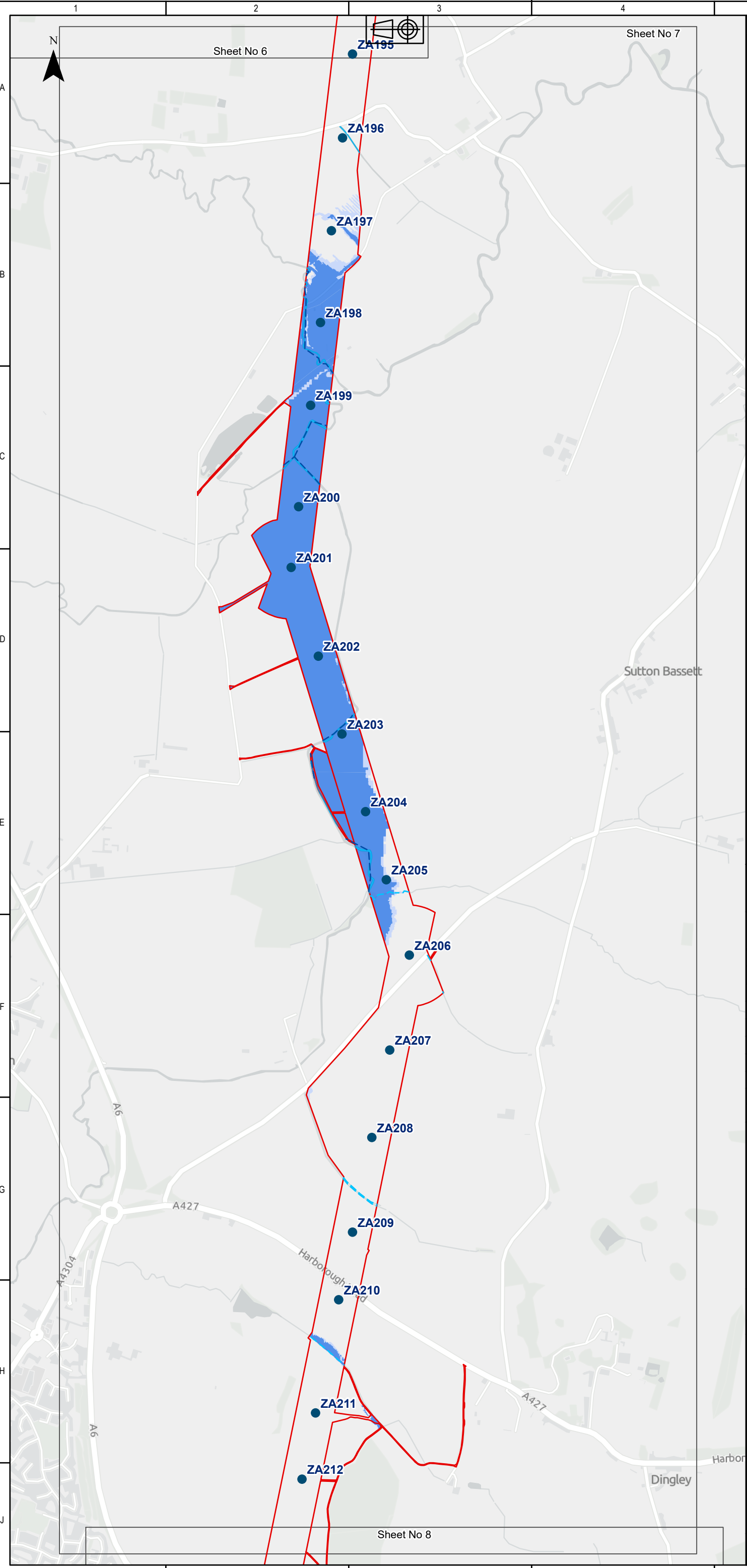
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-6
Hydrology and Flooding

Purpose of issue For Information				Status S3
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KEY PLAN

Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- OS Surface Water Features - Lines
- WFD Surface Waterbodies
- OS Surface Water Features - Areas
- Flood Zone 2
- Flood Zone 3

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National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

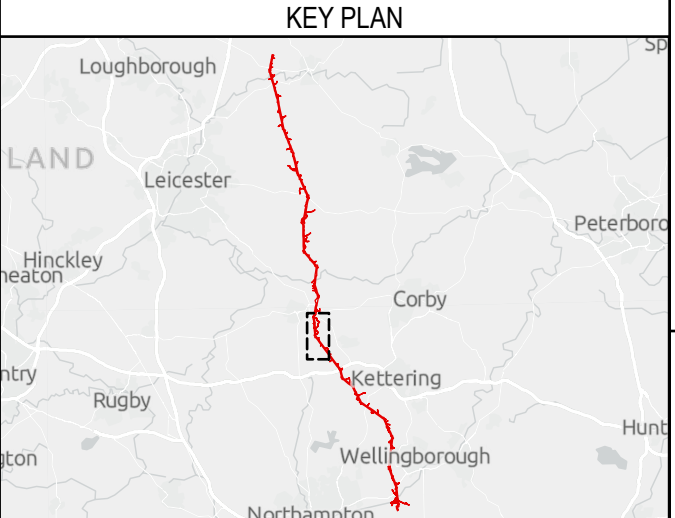
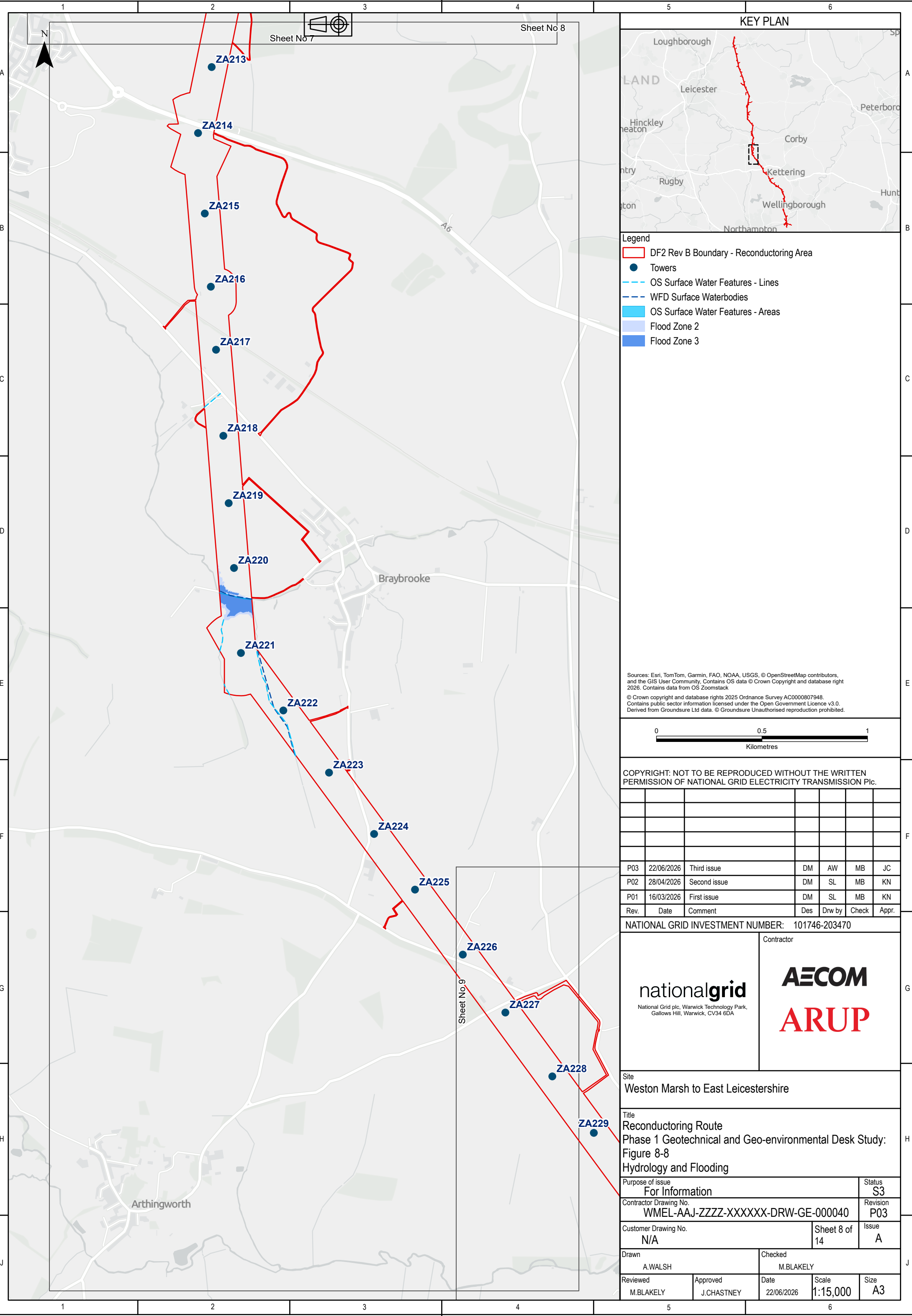
Site

Weston Marsh to East Leicestershire

Title

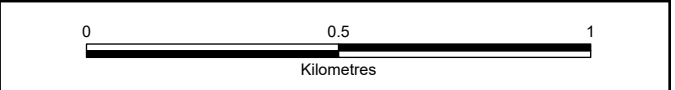
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-7
Hydrology and Flooding

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For Information		S3
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WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000040		P03
Customer Drawing No.		Issue
N/A		A
Drawn		Checked
A.WALSH		M.BLAKEY
Reviewed	Approved	Date
M.BLAKEY	J.CHASTNEY	22/06/2026
Scale		Size
1:15,000		A3



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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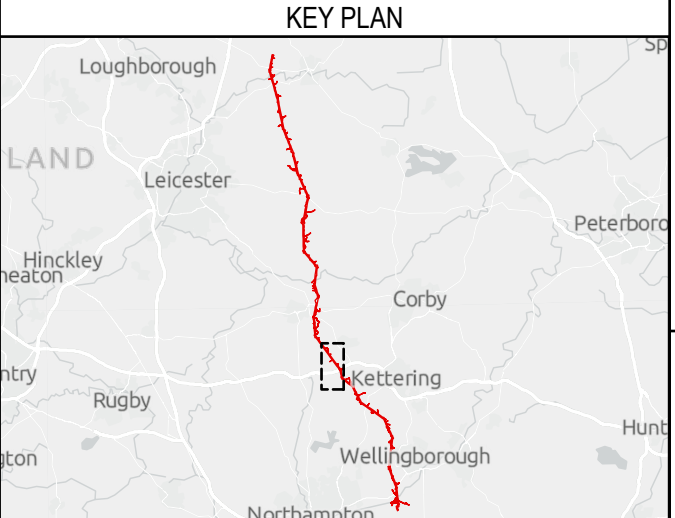
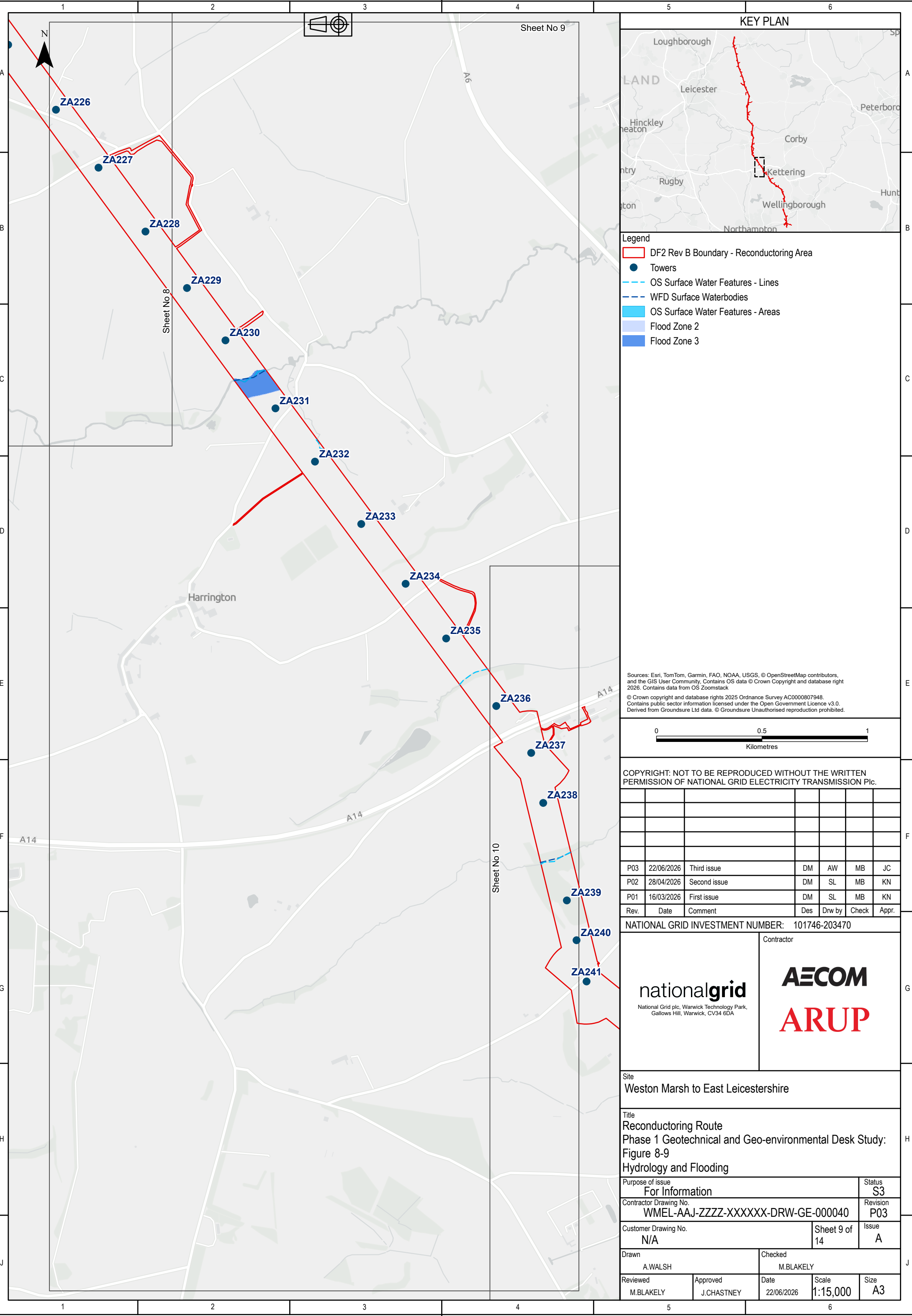
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Contractor

Site
Weston Marsh to East Leicestershire

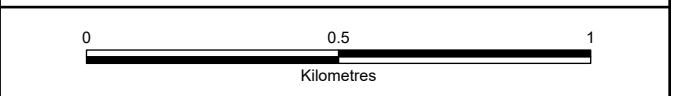
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-8
Hydrology and Flooding

Purpose of issue For Information				Status S3
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Customer Drawing No. N/A			Sheet 8 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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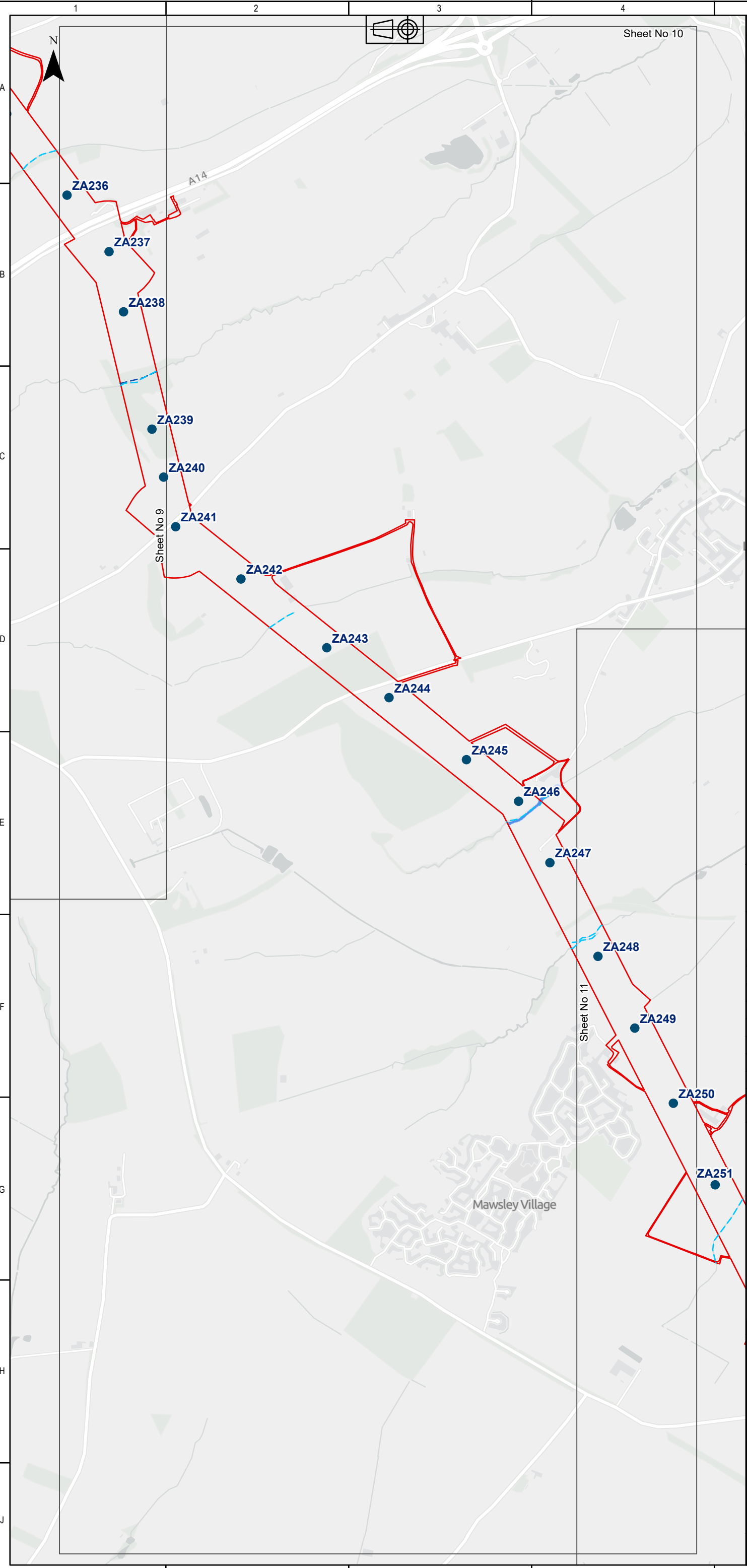
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-9
Hydrology and Flooding

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000040				Revision P03
Customer Drawing No. N/A			Sheet 9 of 14	Issue A
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Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

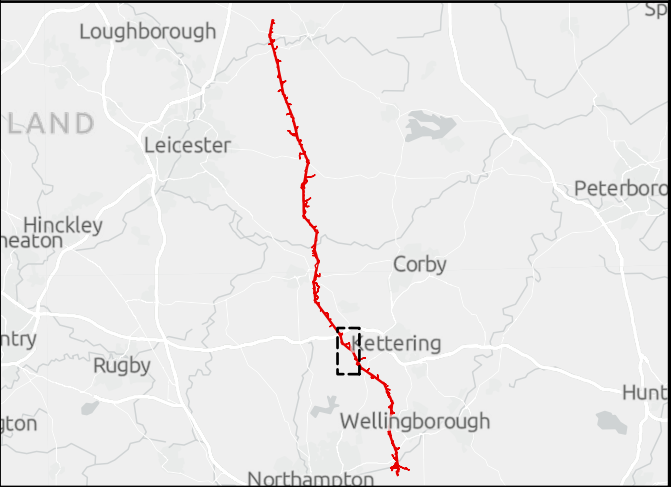


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Sheet No 9

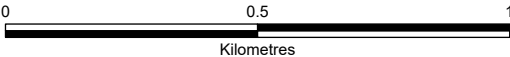
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KEY PLAN



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - Flood Zone 2
 - Flood Zone 3

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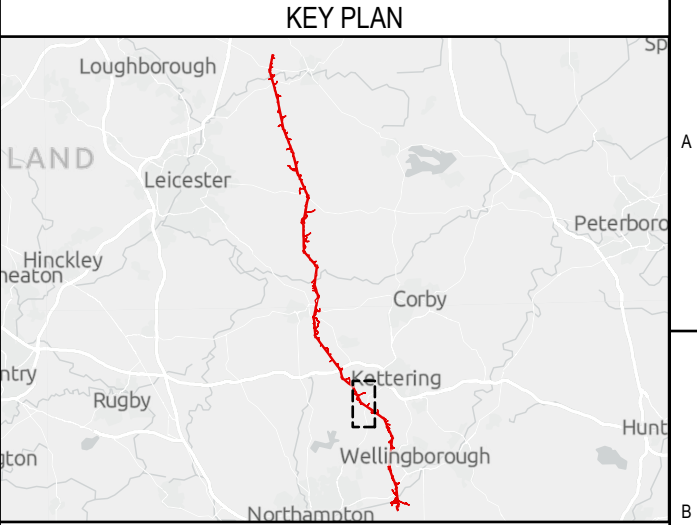
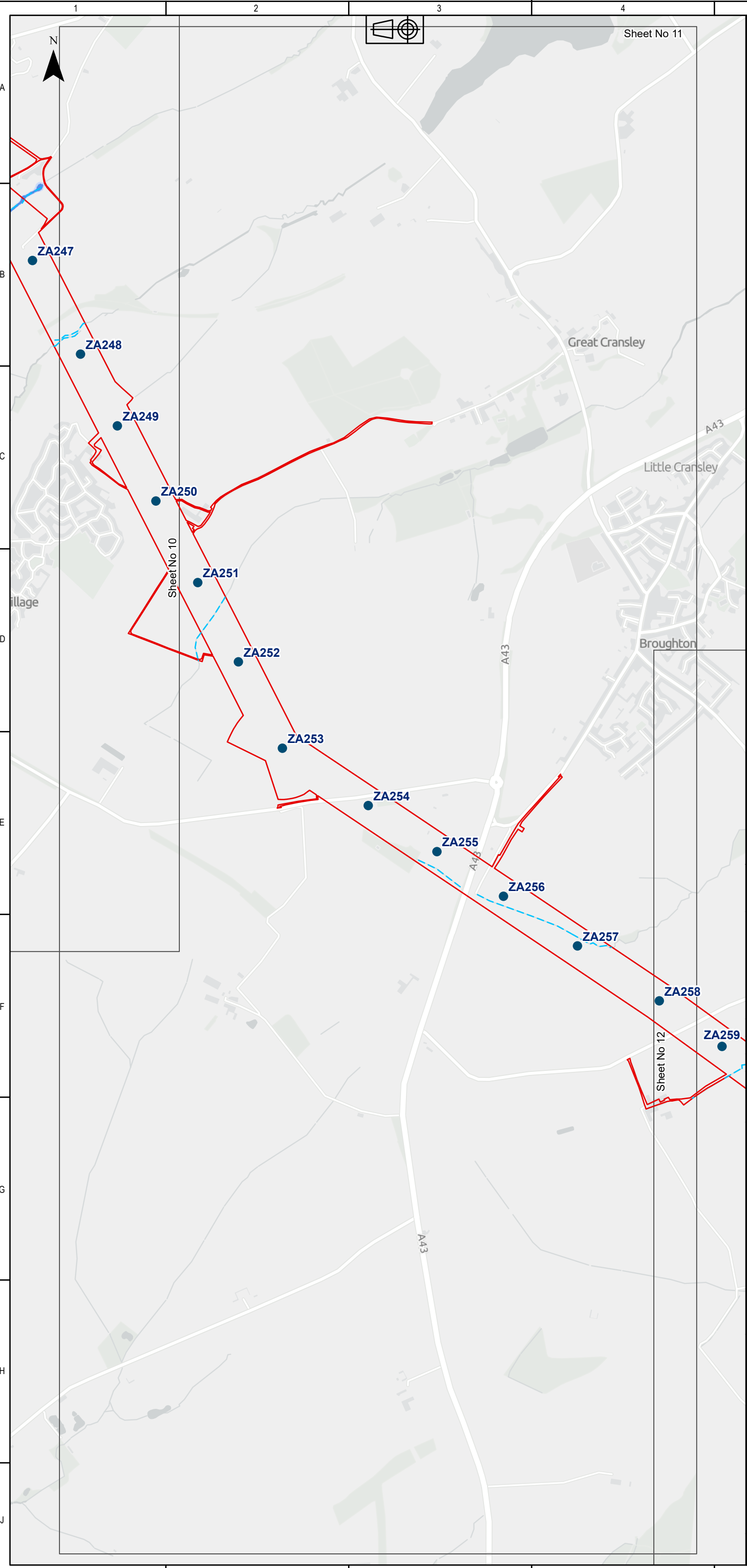
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-10
Hydrology and Flooding

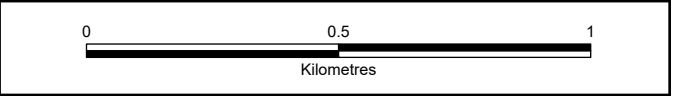
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- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - Flood Zone 2
 - Flood Zone 3

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Contractor

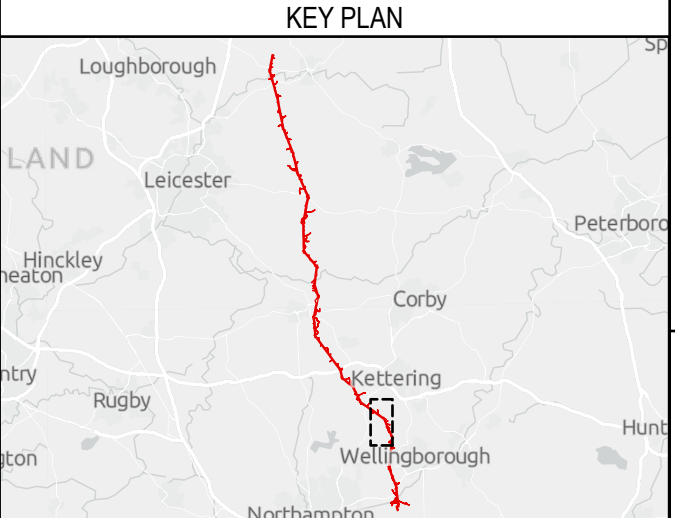
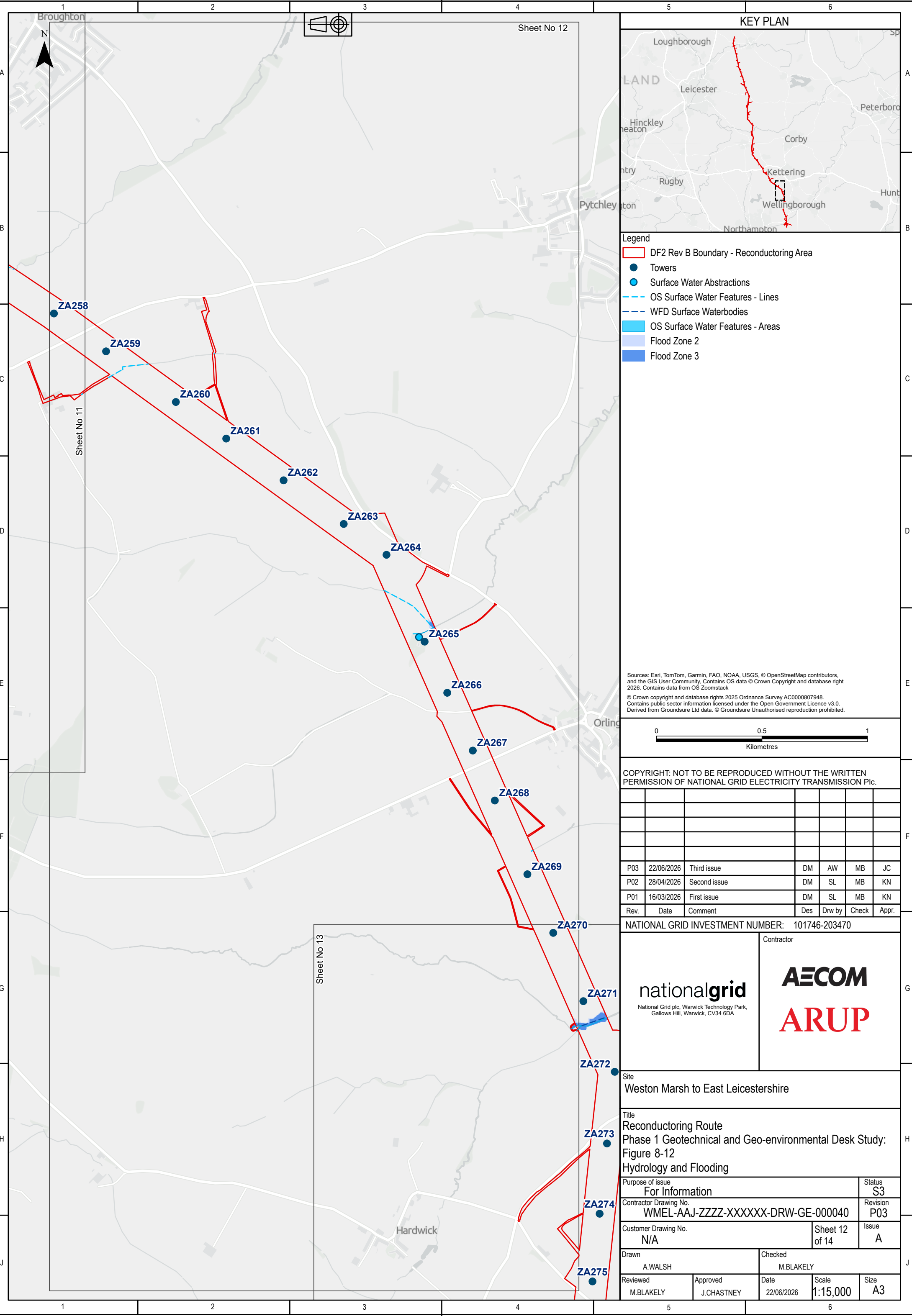
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Weston Marsh to East Leicestershire

Title

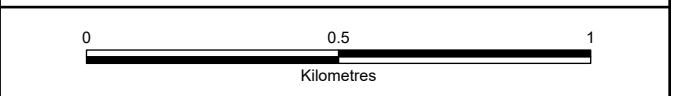
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-11
Hydrology and Flooding

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Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Surface Water Abstractions
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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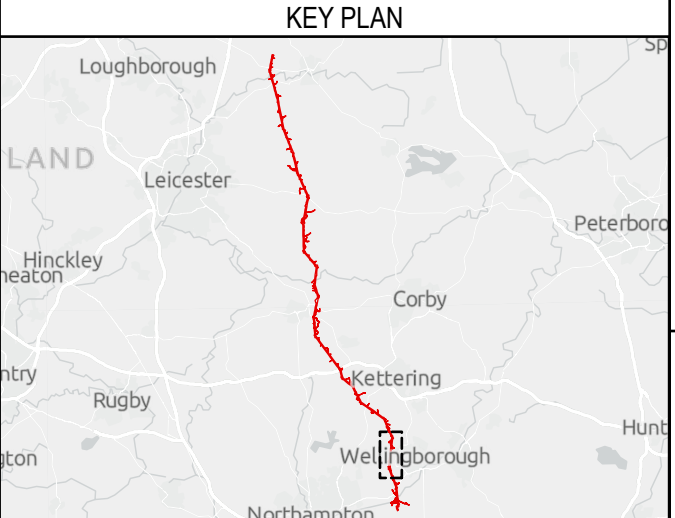
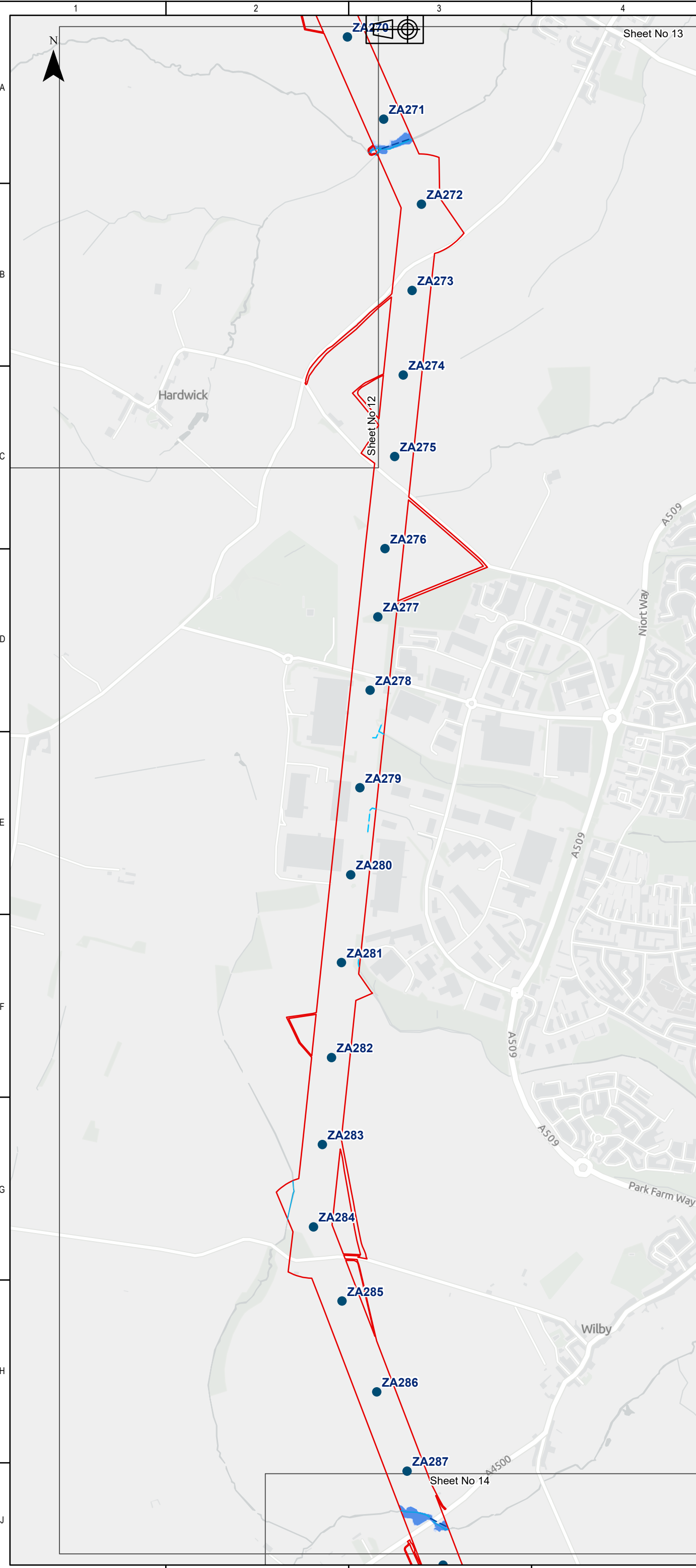
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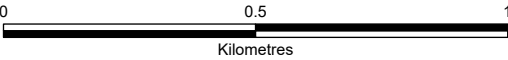
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-12
Hydrology and Flooding

Purpose of issue For Information				Status S3
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Customer Drawing No. N/A			Sheet 12 of 14	Issue A
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Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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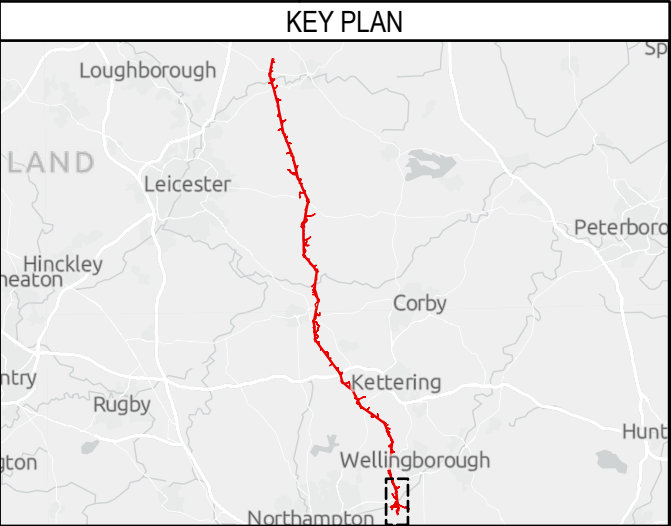
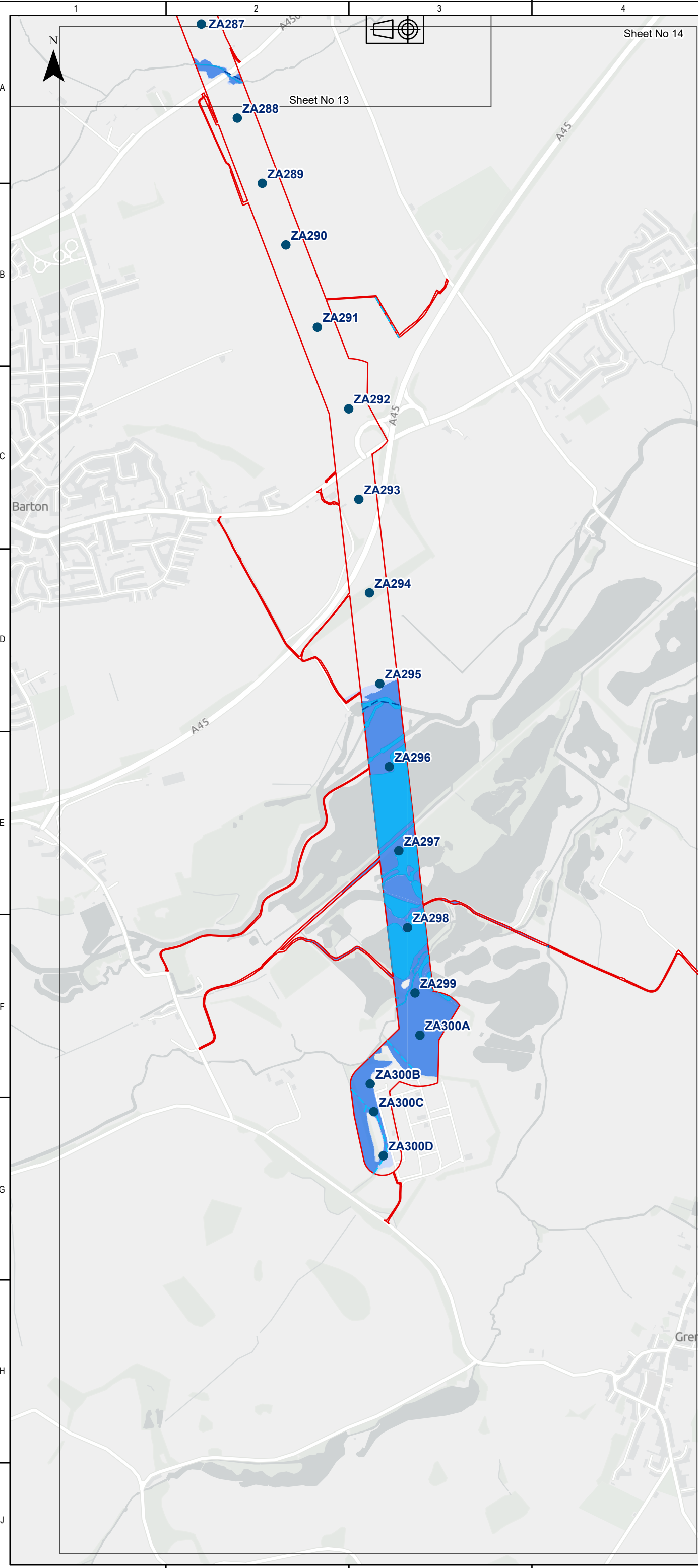
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Site
Weston Marsh to East Leicestershire

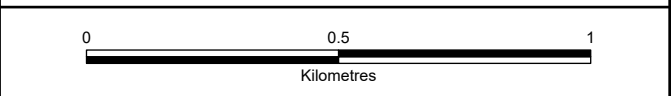
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Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-13
Hydrology and Flooding

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Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - OS Surface Water Features - Lines
 - WFD Surface Waterbodies
 - OS Surface Water Features - Areas
 - Flood Zone 2
 - Flood Zone 3

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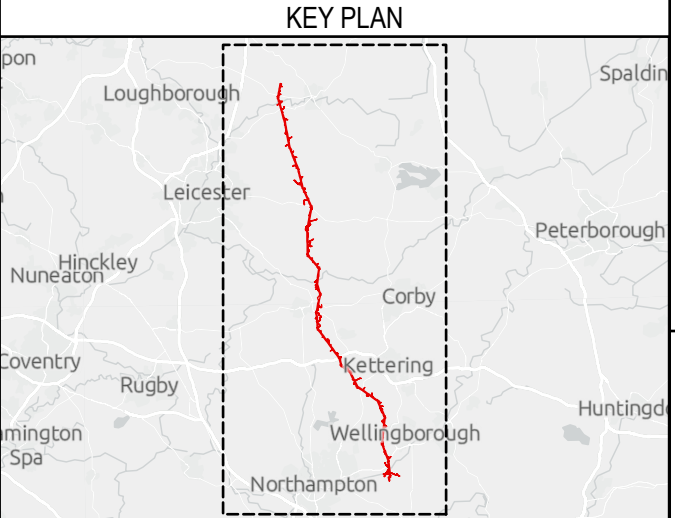
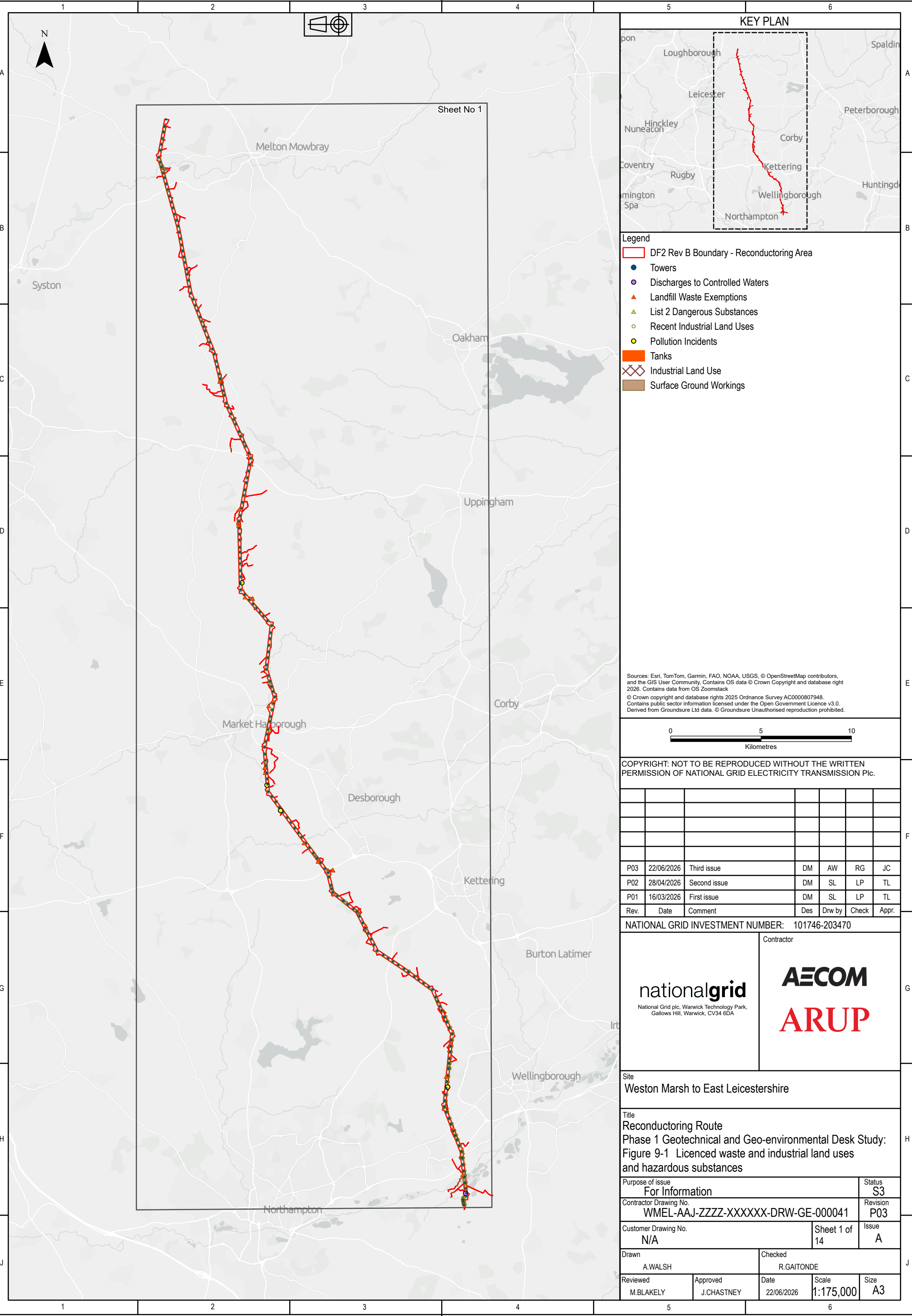
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Contractor

Site
Weston Marsh to East Leicestershire

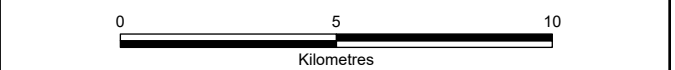
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Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 8-14
Hydrology and Flooding

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Customer Drawing No. N/A			Sheet 14 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Discharges to Controlled Waters
 - Landfill Waste Exemptions
 - List 2 Dangerous Substances
 - Recent Industrial Land Uses
 - Pollution Incidents
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

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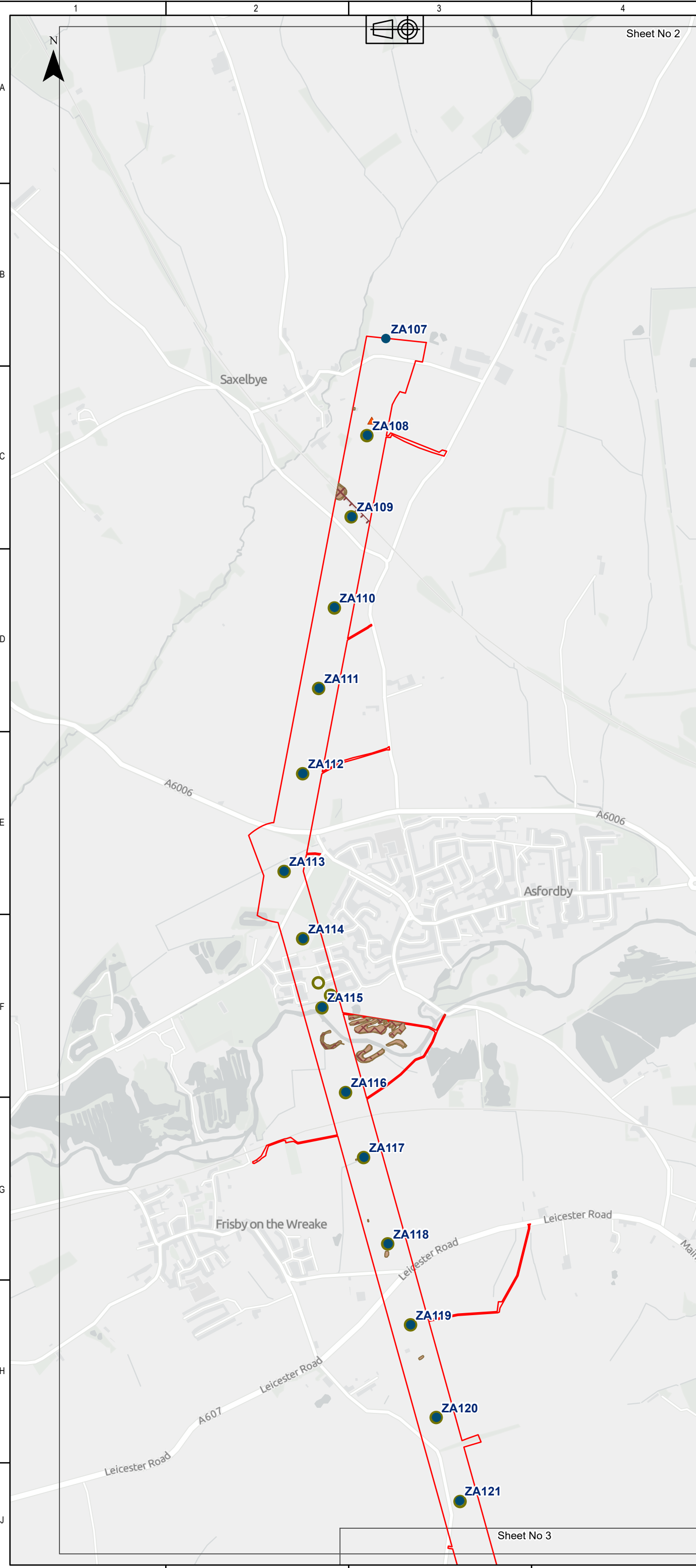
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-1 Licenced waste and industrial land uses
and hazardous substances

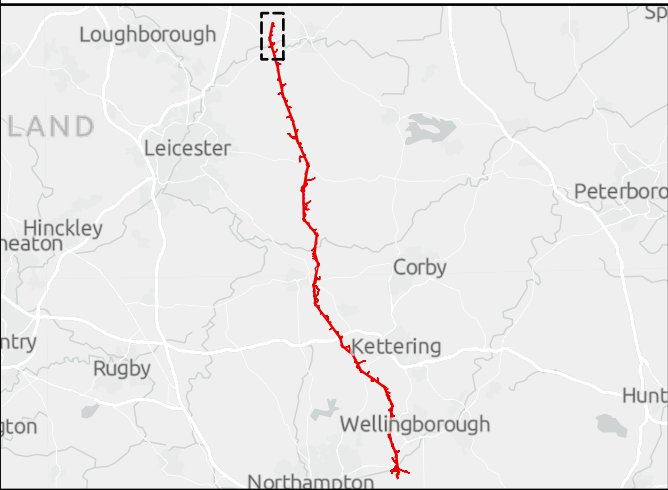
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Reviewed M. BLAKELY	Approved J. CHASTNEY	Date 22/06/2026	Scale 1:175,000	Size A3



Sheet No 2

Sheet No 3

KEY PLAN



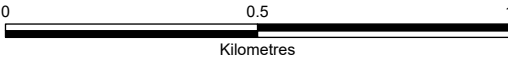
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- Landfill Waste Exemptions
- Recent Industrial Land Uses
- Industrial Land Use
- Surface Ground Workings

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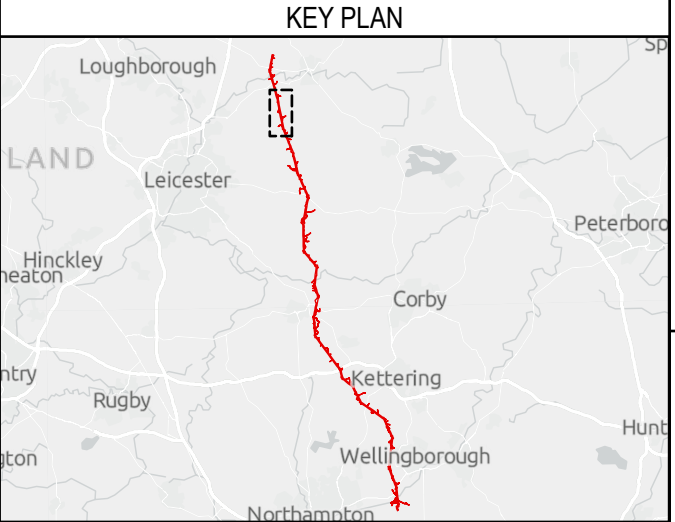
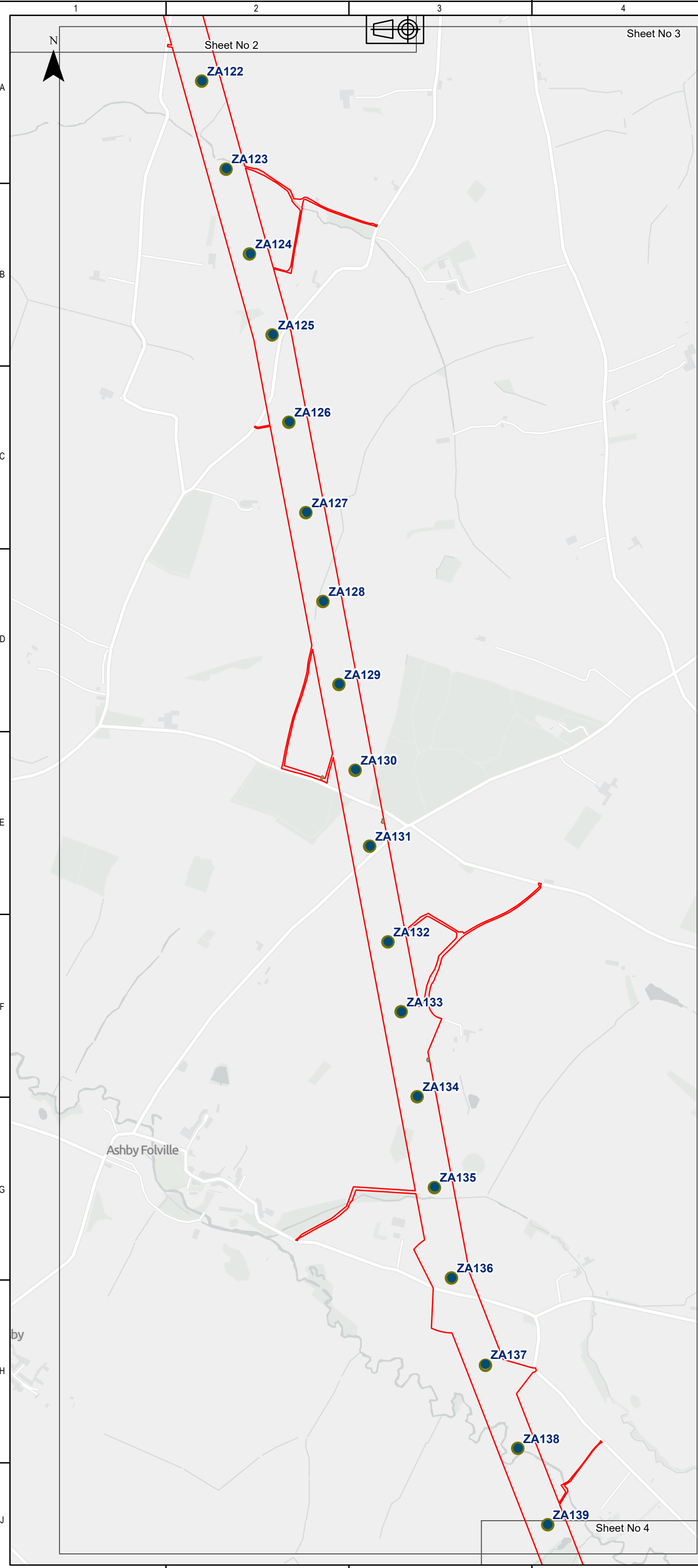
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Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-2 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
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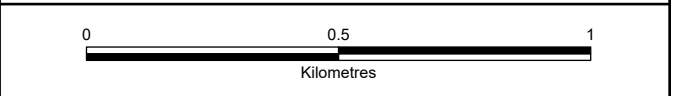


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Recent Industrial Land Uses
 - Surface Ground Workings

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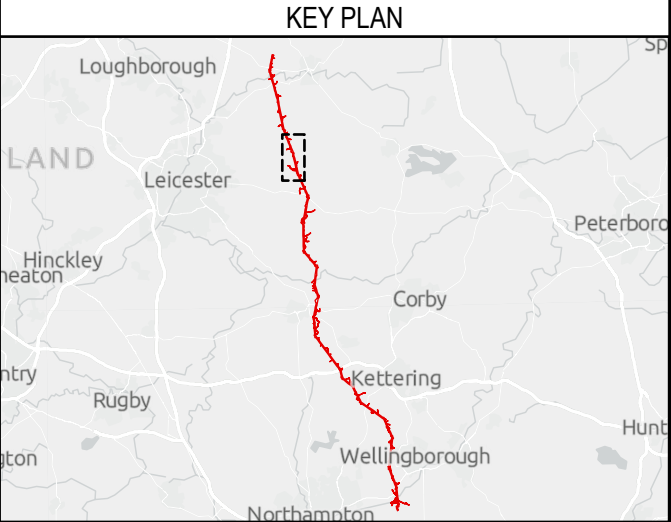
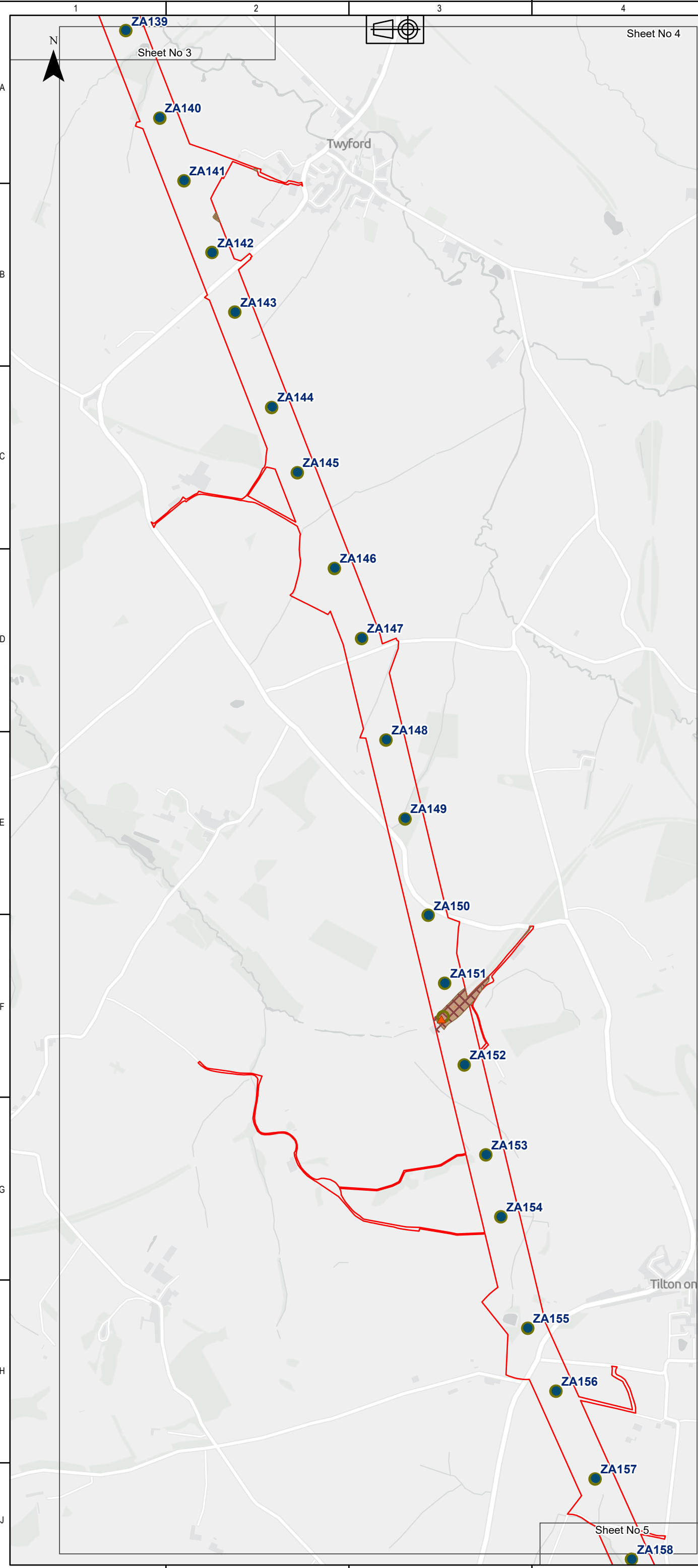
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-3 Licenced waste and industrial land uses and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 3 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

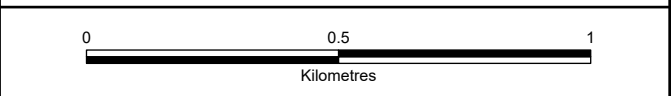


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

NATIONAL GRID INVESTMENT NUMBER: 101746-203470

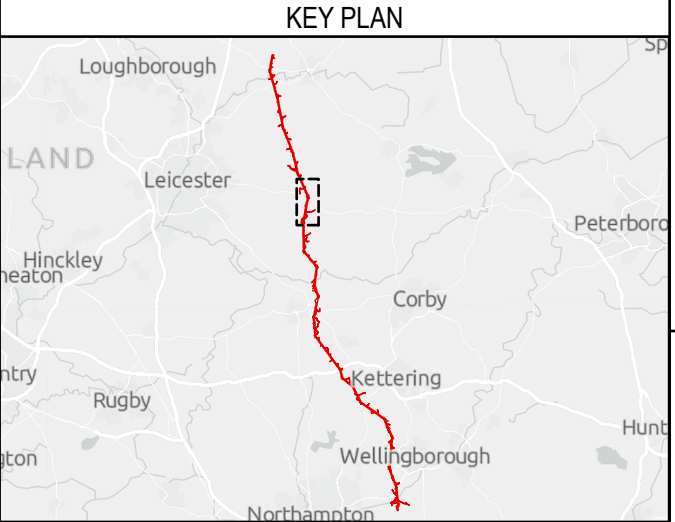
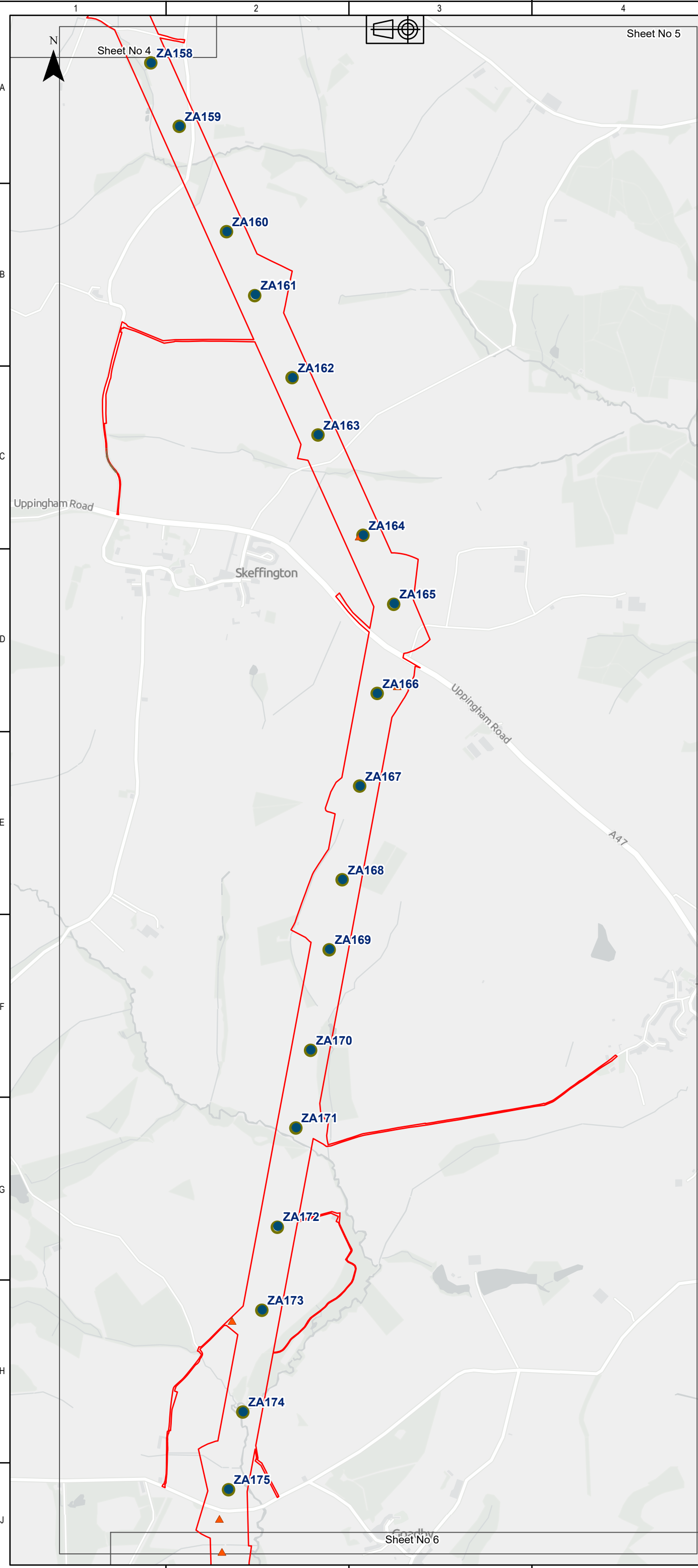
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-4 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 4 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

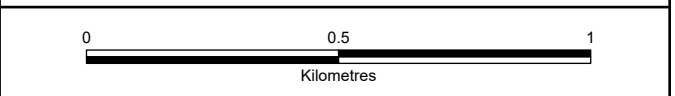


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Industrial Land Use
 - Surface Ground Workings

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

NATIONAL GRID INVESTMENT NUMBER: 101746-203470

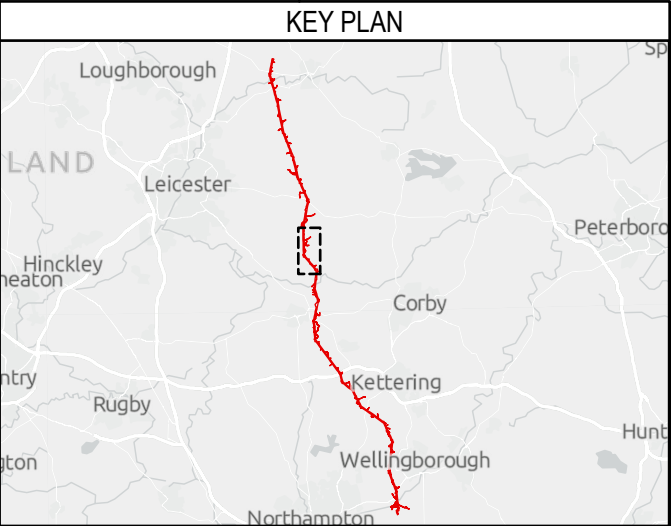
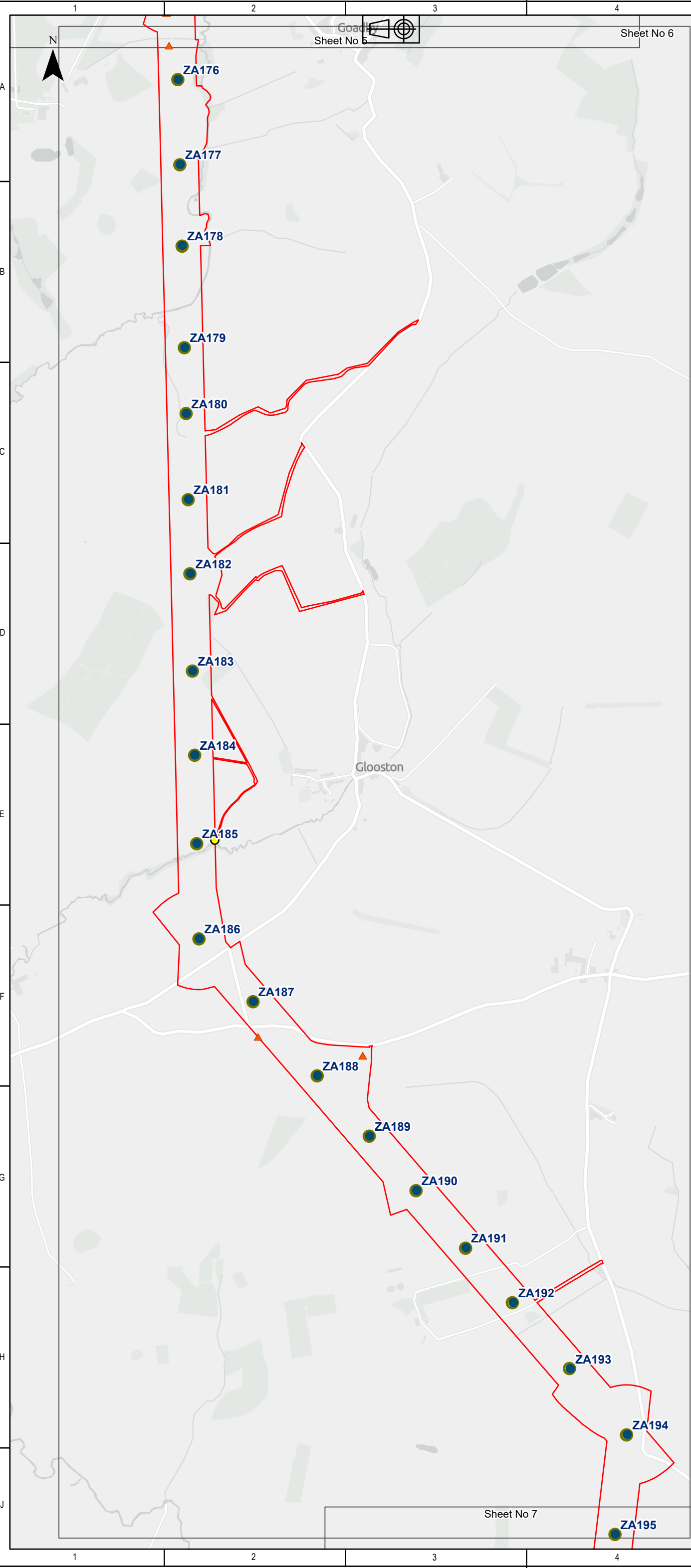
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-5 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 5 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

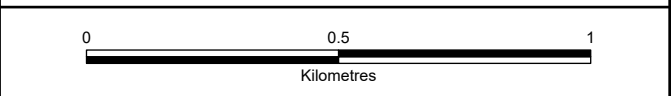


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Pollution Incidents
 - Industrial Land Use

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P01	16/03/2026	First issue	DM	SL	LP	TL
Rev.	Date	Comment	Des	Drw by	Check	Appr.

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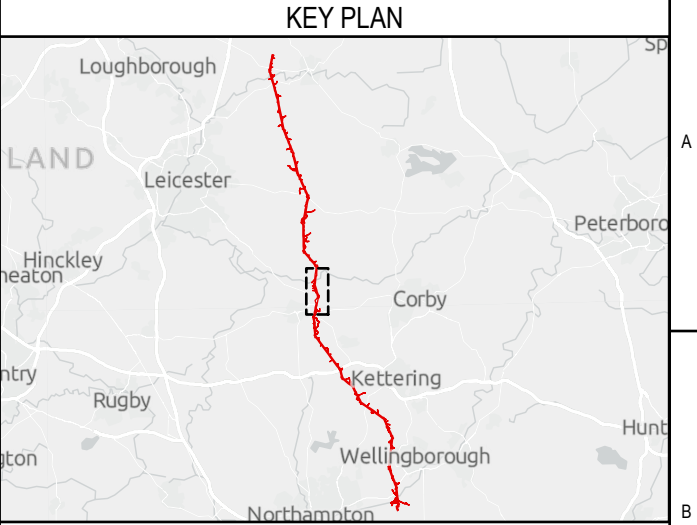
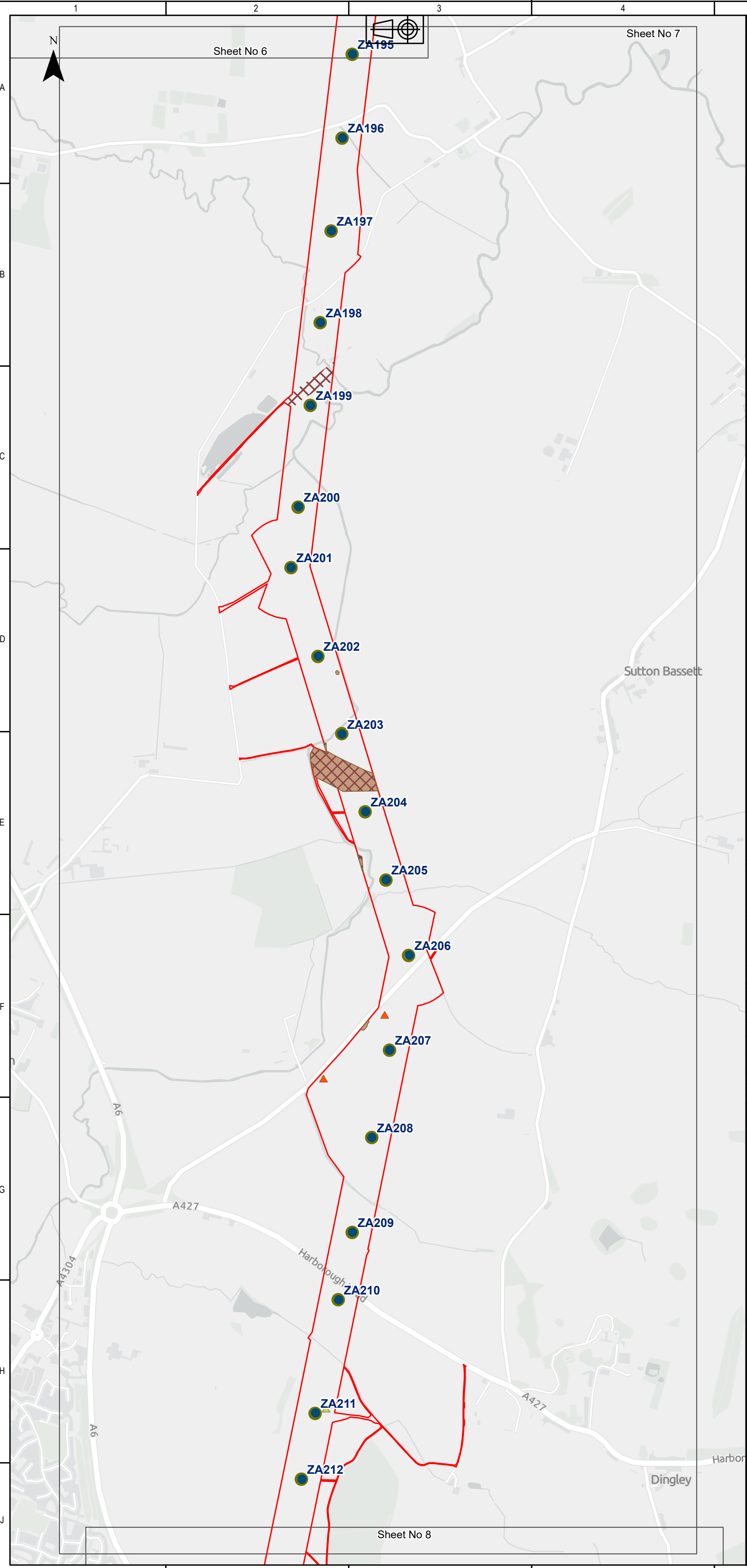
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-6 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 6 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

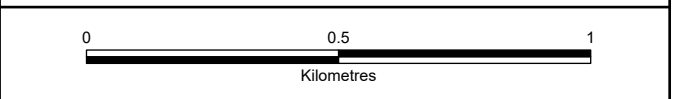


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - List 2 Dangerous Substances
 - Recent Industrial Land Uses
 - Industrial Land Use
 - Surface Ground Workings

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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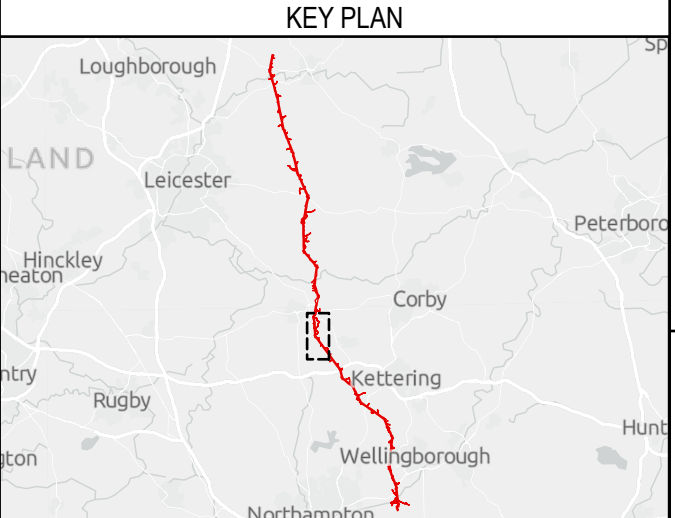
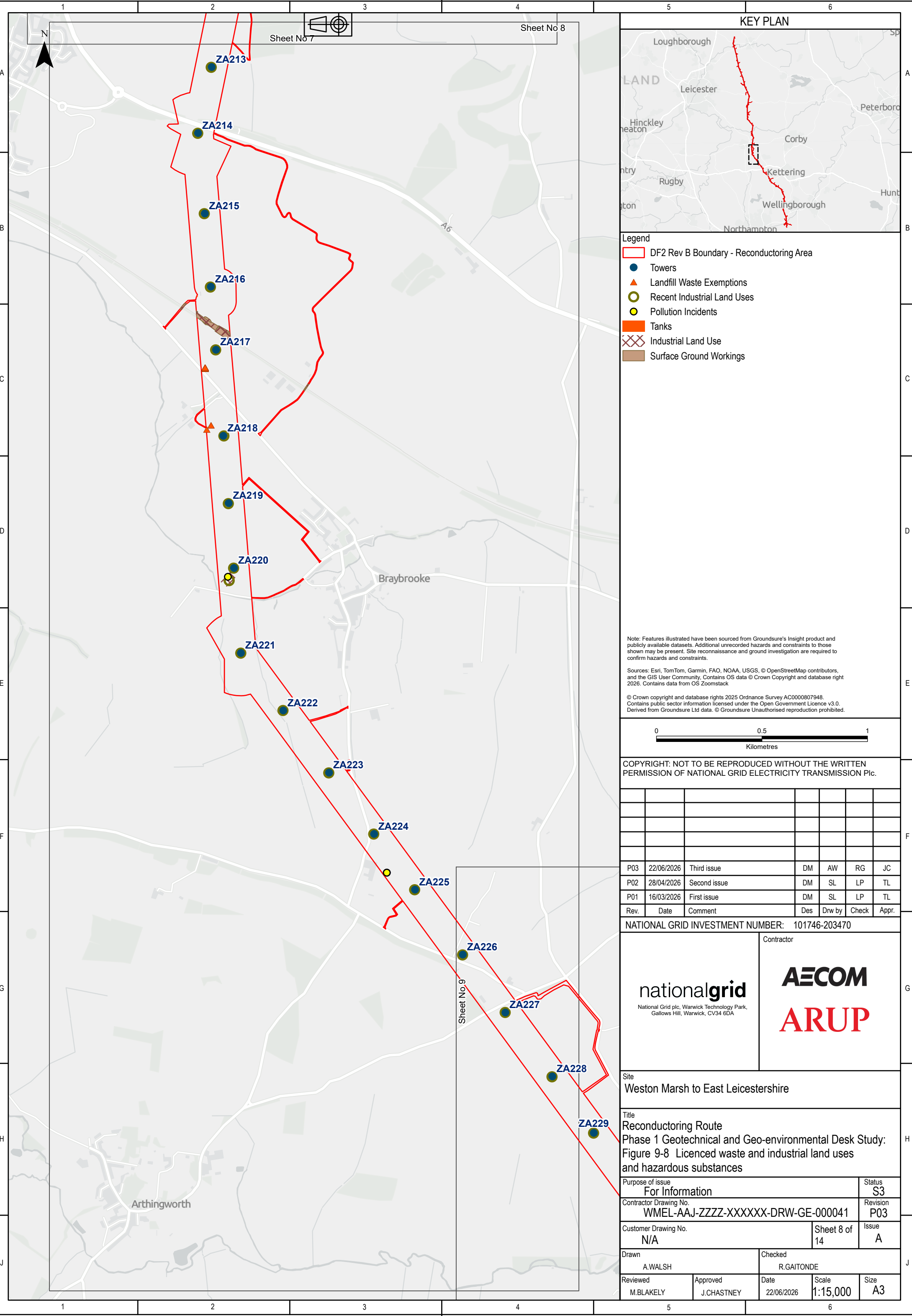
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-7 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 7 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

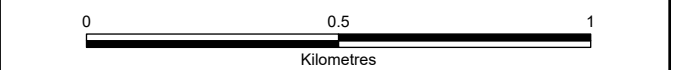


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Pollution Incidents
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

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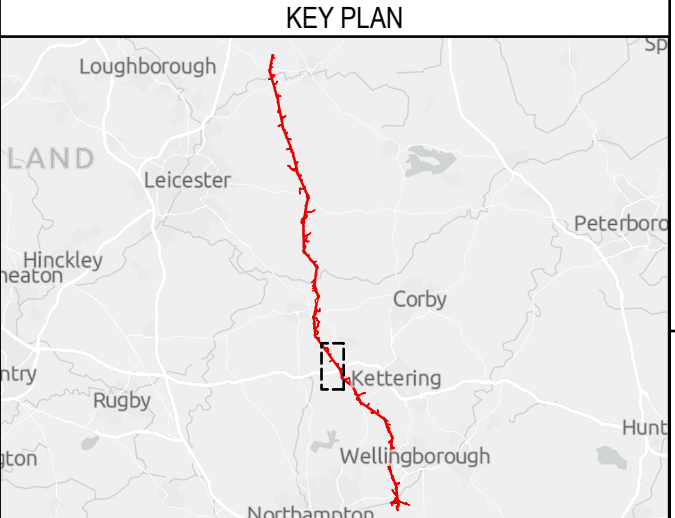
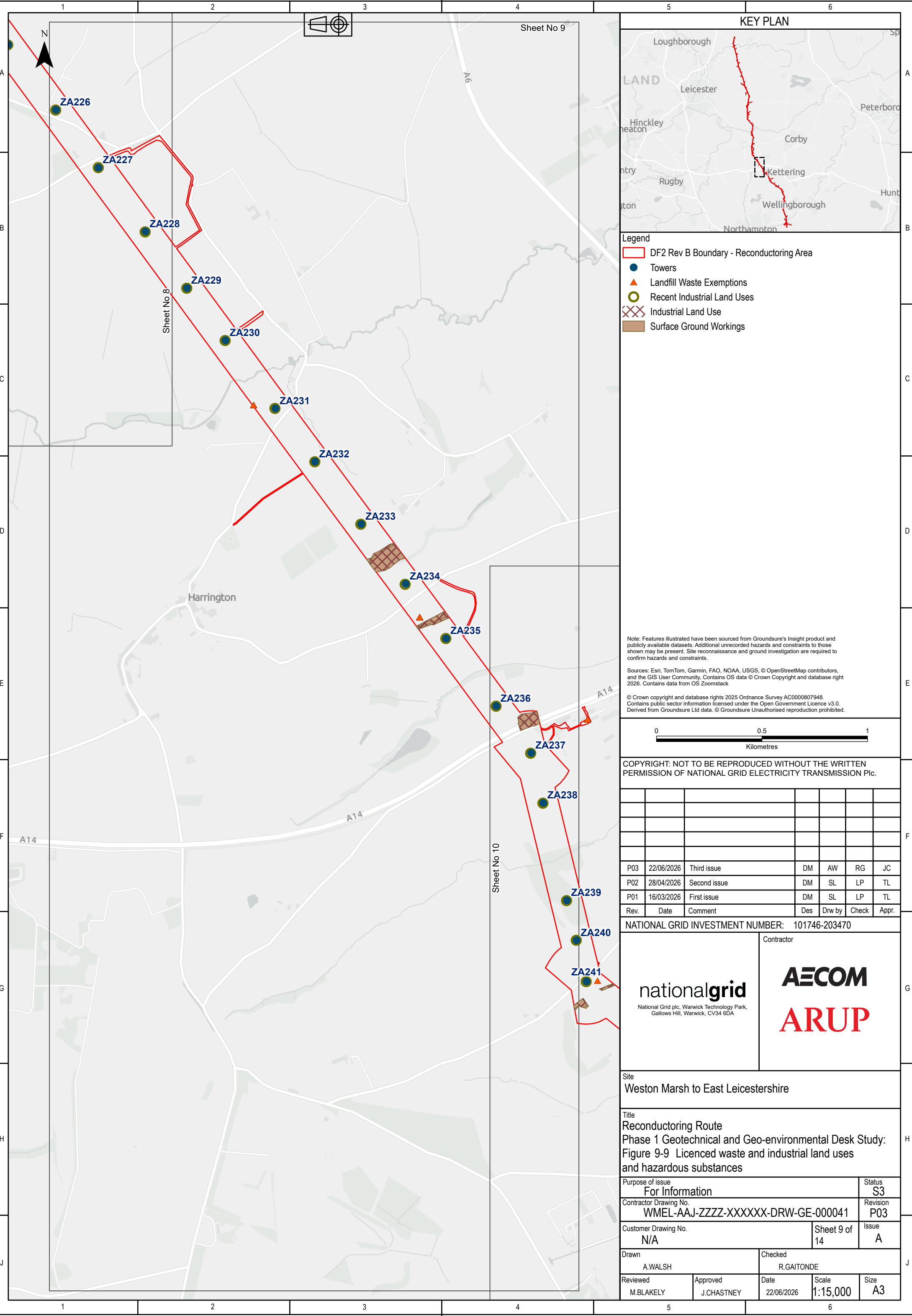
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-8 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 8 of 14	Issue A
Drawn A. WALSH		Checked R. GAITONDE		
Reviewed M. BLAKELY	Approved J. CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

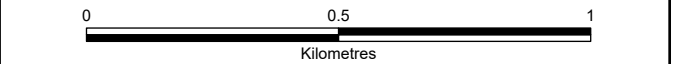


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Industrial Land Use
 - Surface Ground Workings

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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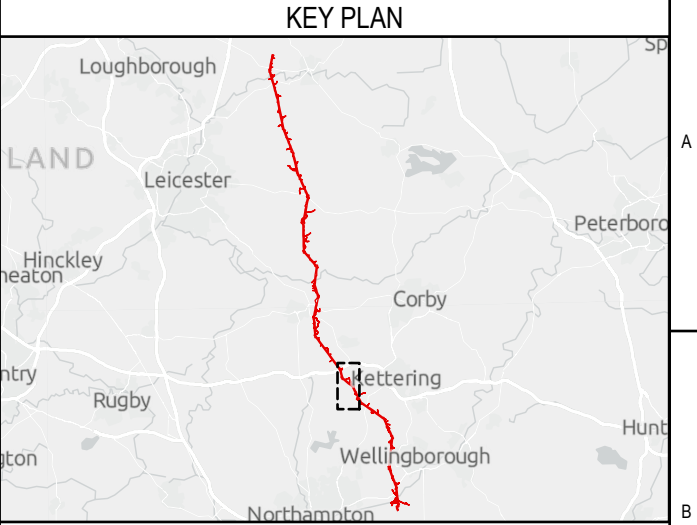
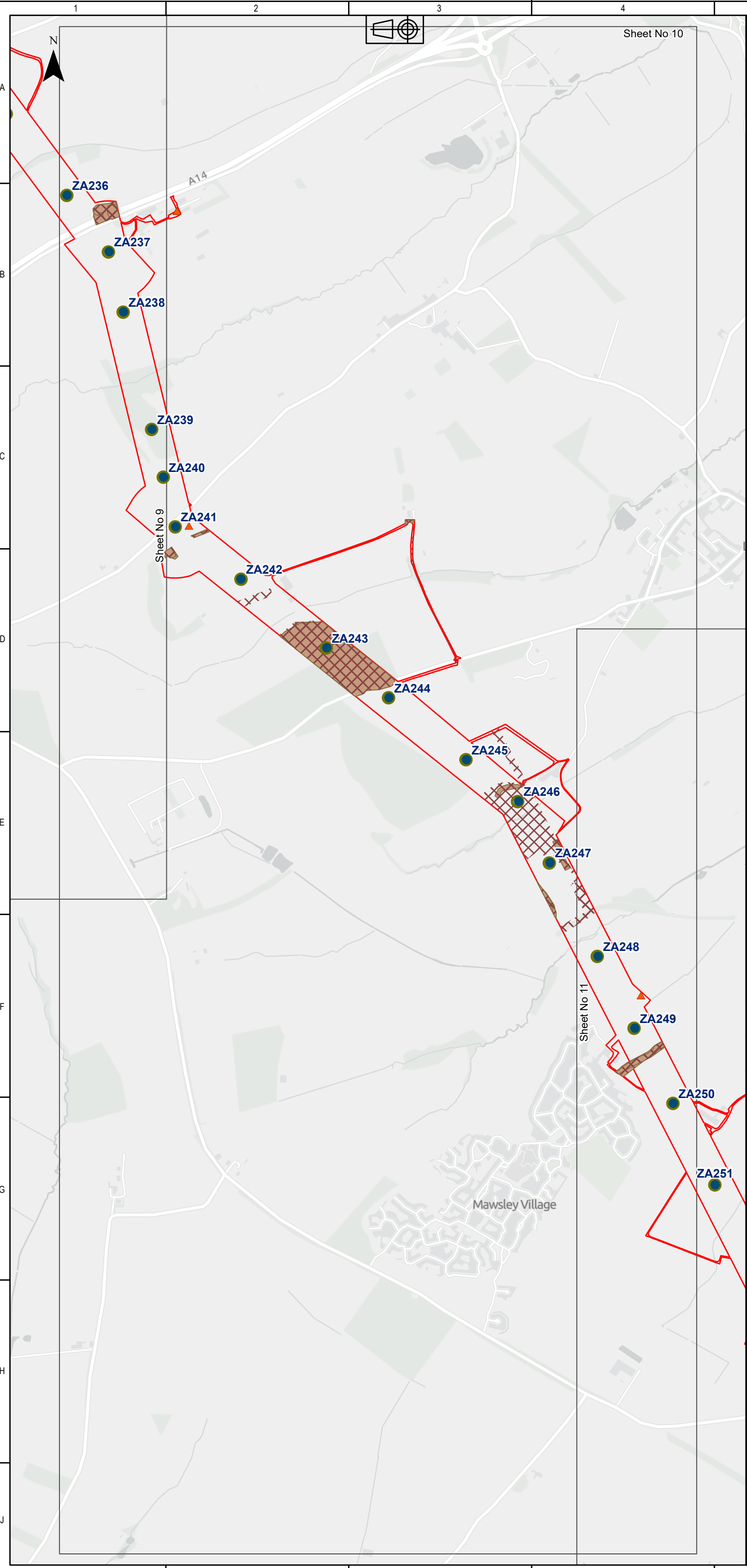
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-9 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 9 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKELY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

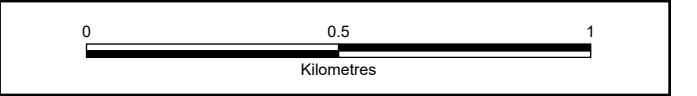


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Industrial Land Use
 - Surface Ground Workings

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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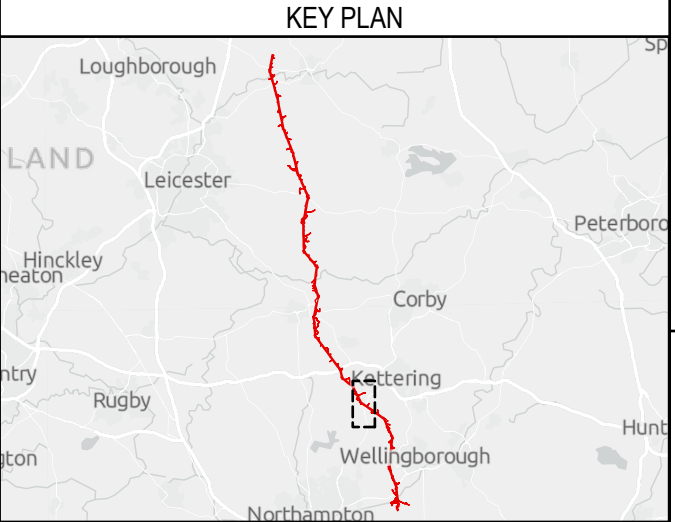
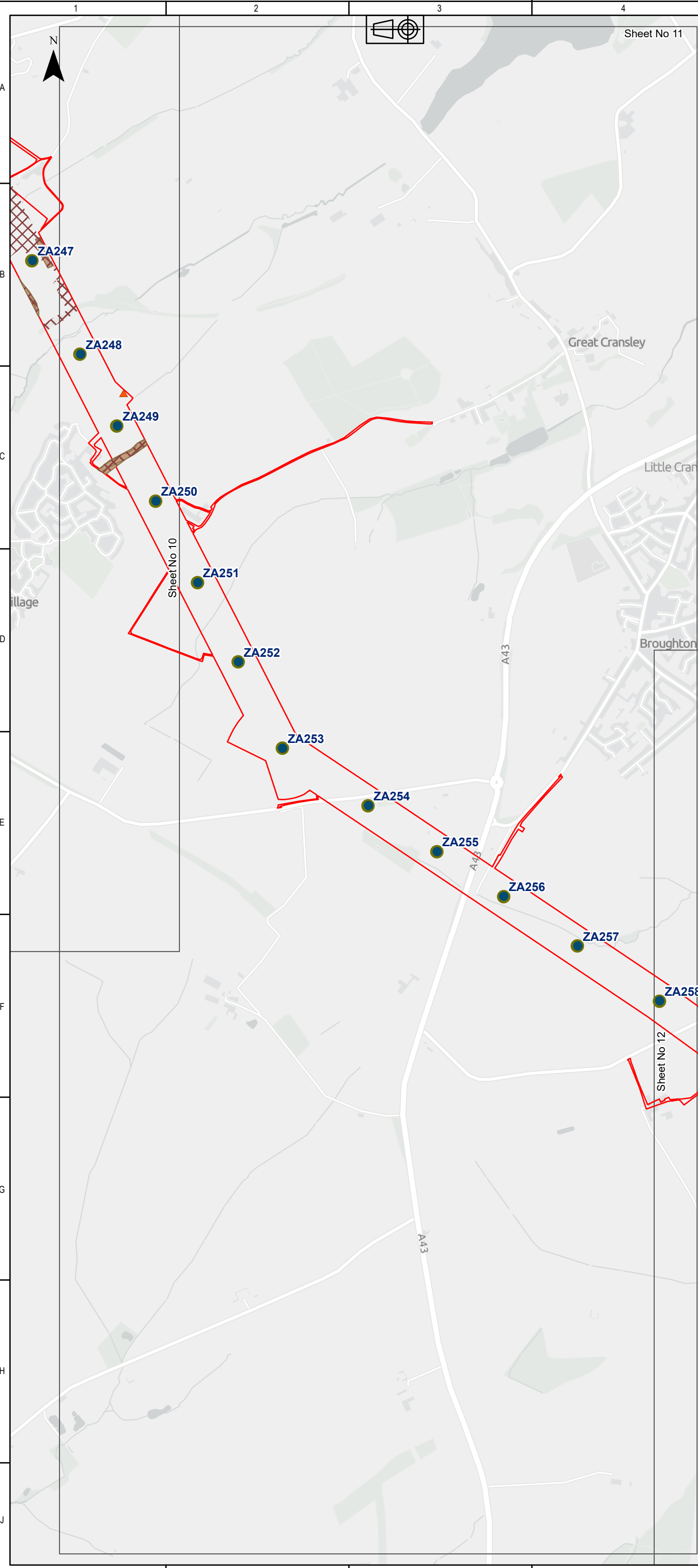
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-10Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 10 of 14	Issue A
Drawn A. WALSH		Checked R. GAITONDE		
Reviewed M. BLAKELY	Approved J. CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

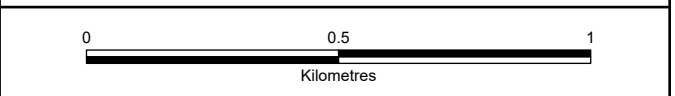


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

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Rev.	Date	Comment	Des	Drw by	Check	Appr.	

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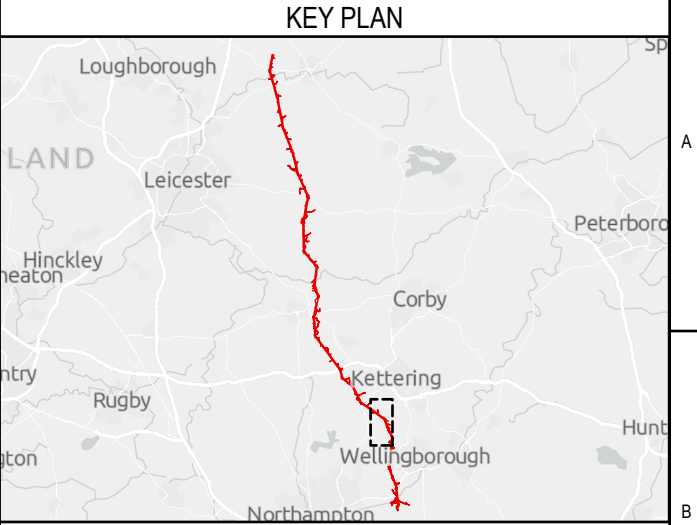
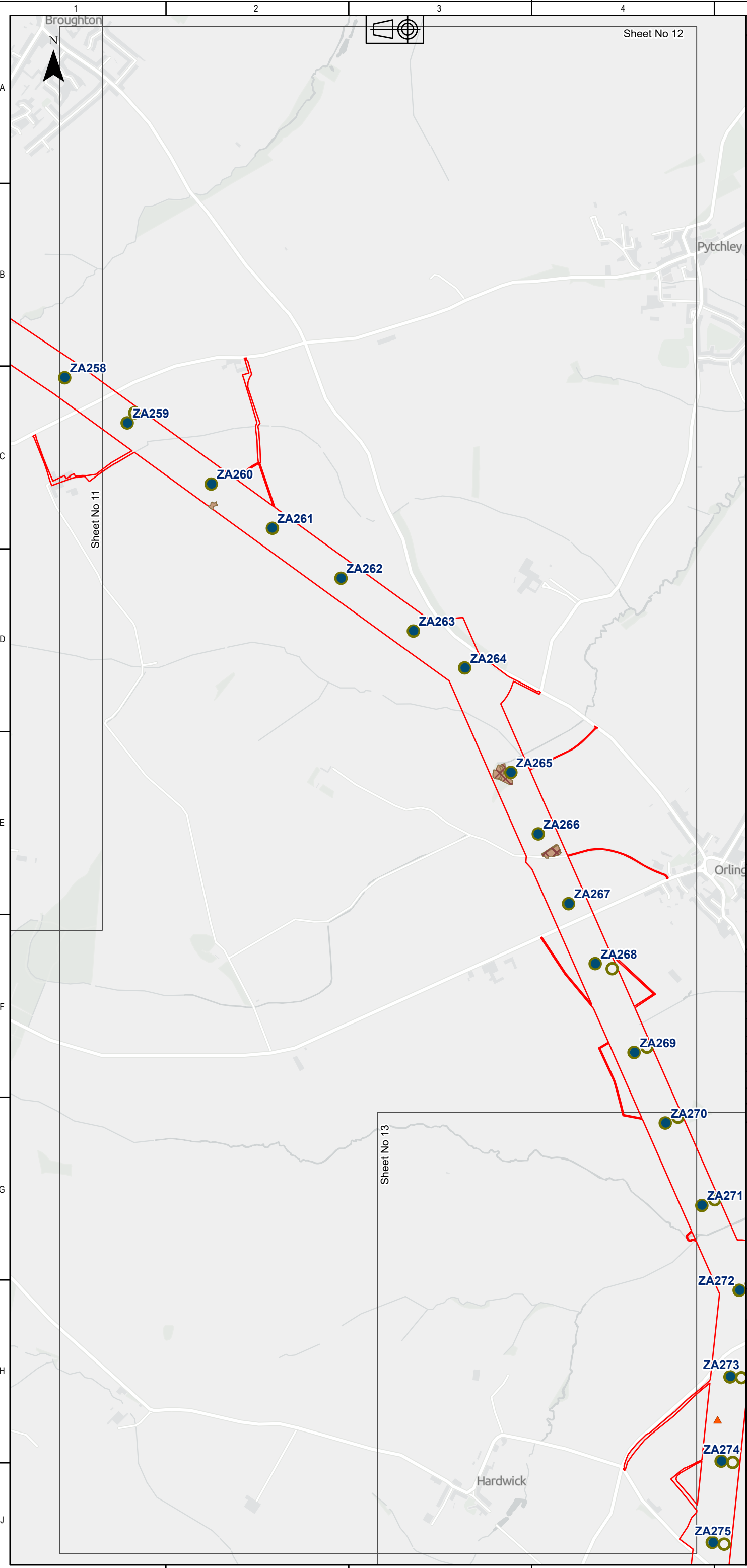
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-11 Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 11 of 14	Issue A
Drawn A. WALSH		Checked R. GAITONDE		
Reviewed M. BLAKELY	Approved J. CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

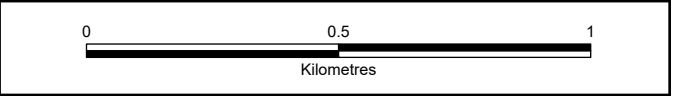


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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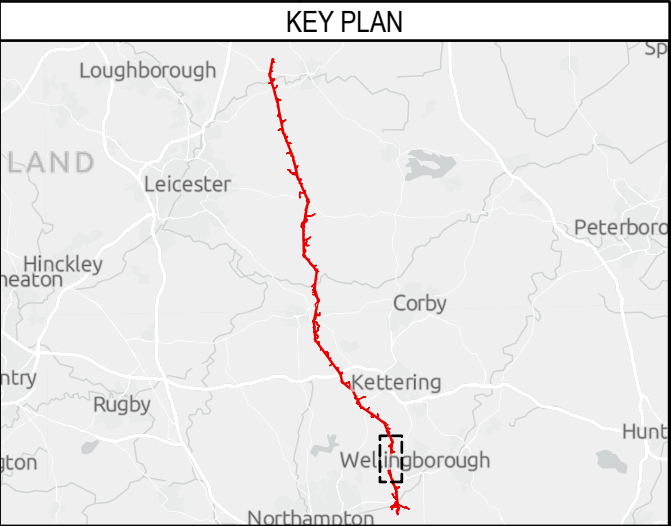
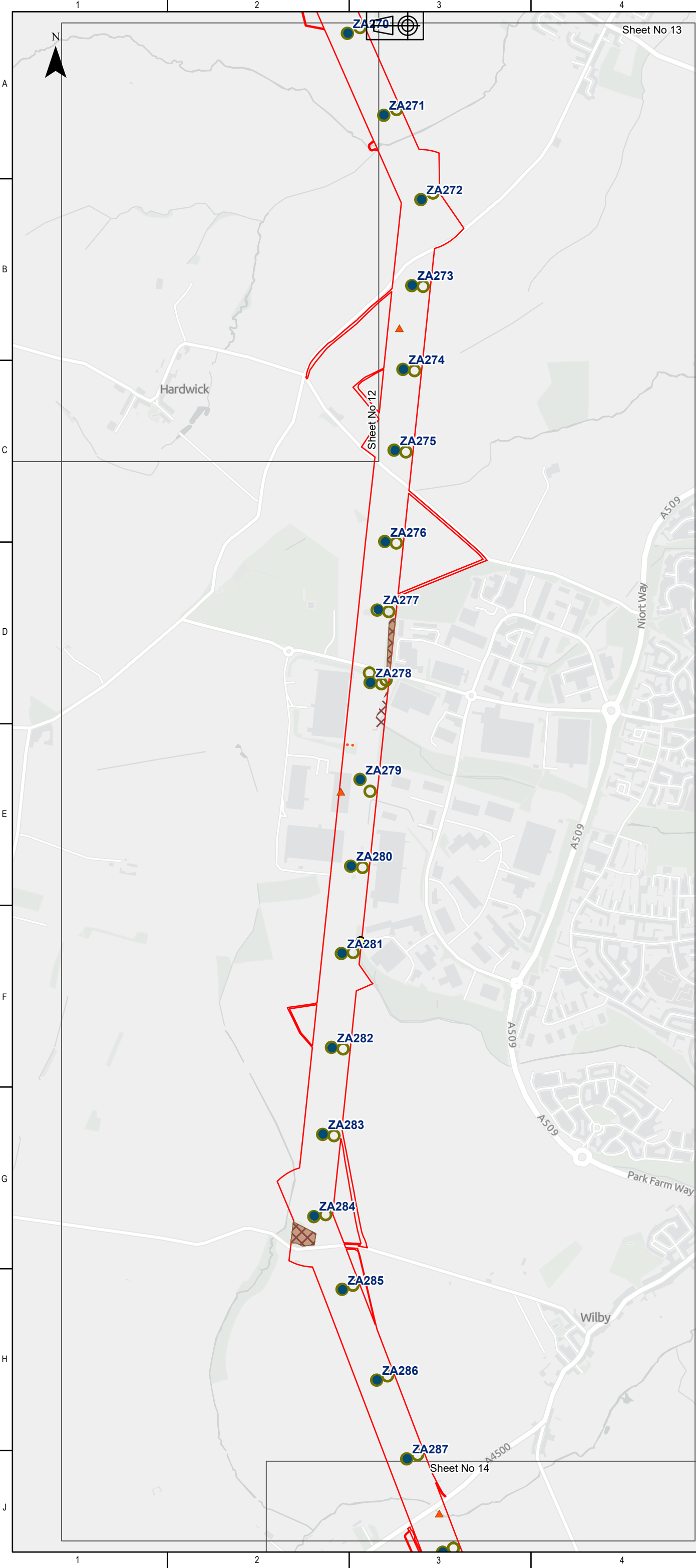
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-12Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 12 of 14	Issue A
Drawn A. WALSH		Checked R. GAITONDE		
Reviewed M. BLAKELY	Approved J. CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



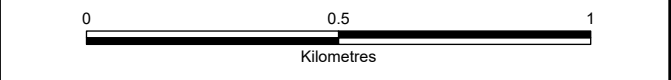
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- Landfill Waste Exemptions
- Recent Industrial Land Uses
- Pollution Incidents
- Tanks
- Industrial Land Use
- Surface Ground Workings

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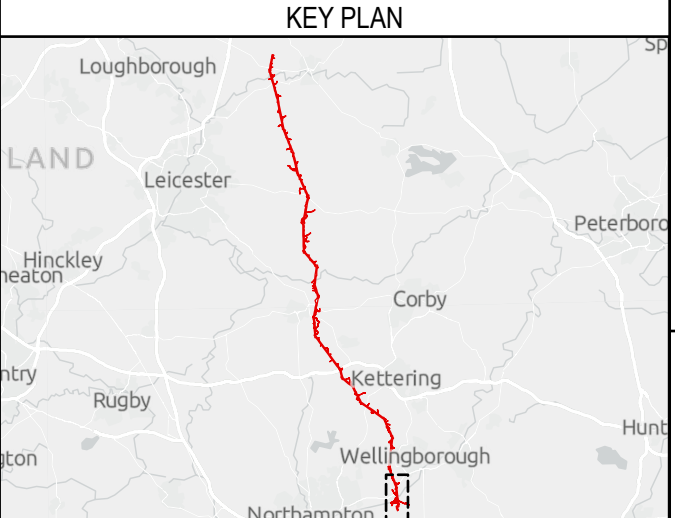
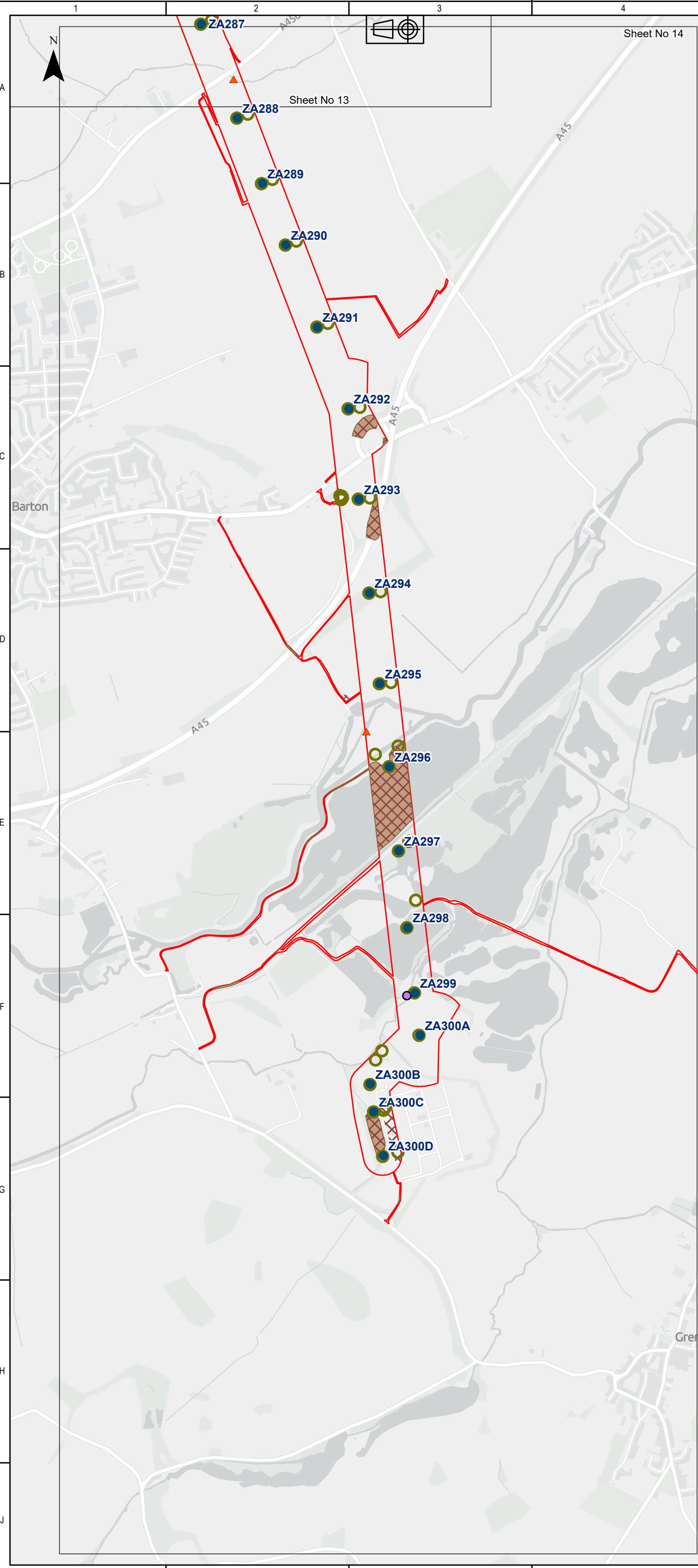
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-13Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 13 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

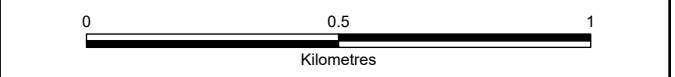


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Discharges to Controlled Waters
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Tanks
 - Industrial Land Use
 - Surface Ground Workings

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P01	16/03/2026	First issue	DM	SL	LP	TL
Rev.	Date	Comment	Des	Drw by	Check	Appr.

NATIONAL GRID INVESTMENT NUMBER: 101746-203470

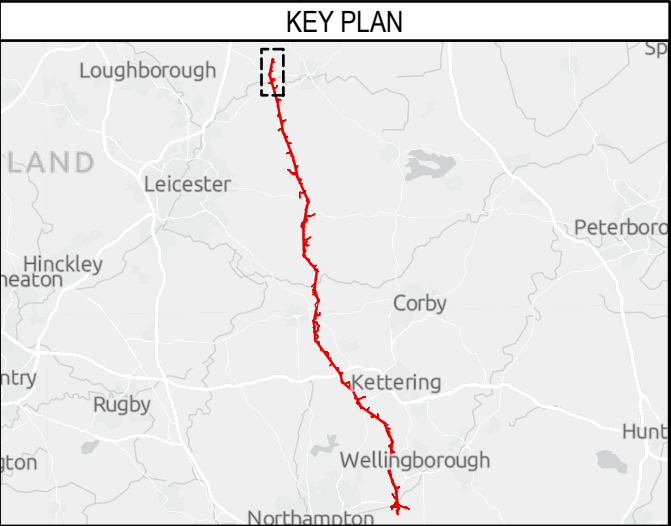
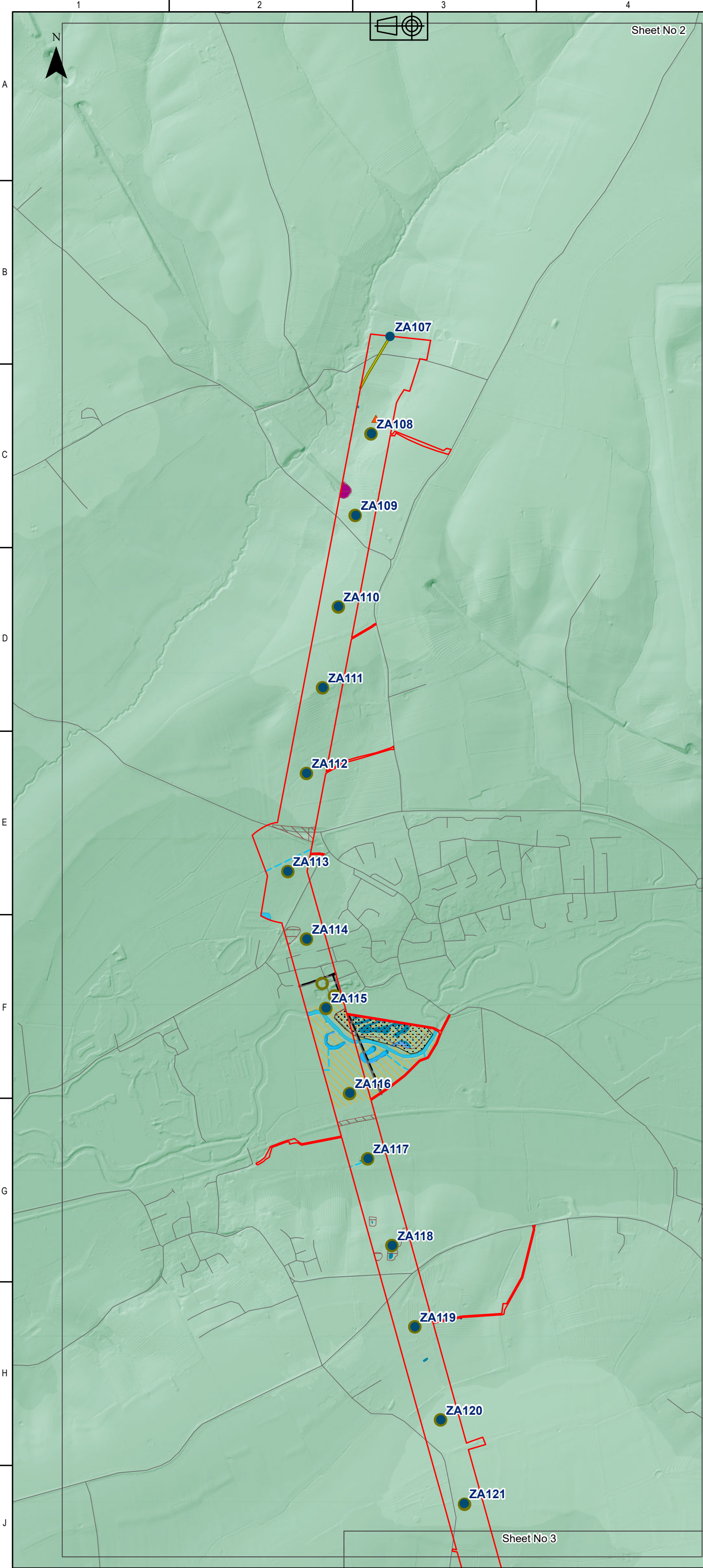
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 9-14Licenced waste and industrial land uses
and hazardous substances

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000041				Revision P03
Customer Drawing No. N/A			Sheet 14 of 14	Issue A
Drawn A.WALSH		Checked R.GAITONDE		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



Legend

DF2 Rev B Boundary - Reconductoring Area

Towers

Landfill Waste Exemptions

Recent Industrial Land Uses

Artificial Made Ground 50K

Infilled Ground-Artificial deposit

Artificial Made Ground 10K

Made Ground - Artificial deposit

Worked Ground - Void

Infilled Ground - Artificial deposit

Faults Linear Features 50K

Approximate margin of buried (superficial deposit-filled) channel or valley; beads to outside

Fault, inferred, crossmark on downthrow side, throw in metres

Fault, inferred, displacement unknown

Faults Linear Features 10K

Approximate margin of buried (superficial deposit-filled) channel or valley; beads to outside

Fault, inferred, displacement unknown

Compressible Deposits

Moderate

Surface Ground Workings (Use)

Cuttings

Pond

Water Body

OS Open Roads

OS Surface Water Features - Lines

OS Surface Water Features - Areas

Digital Terrain Model LiDAR (1m)

31 - 75

76 - 105

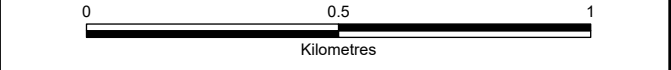
106 - 140

141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P01	16/03/2026	First issue	DM	SL	MB	KN
Rev.	Date	Comment	Des	Drw by	Check	Appr.

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nationalgrid

National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

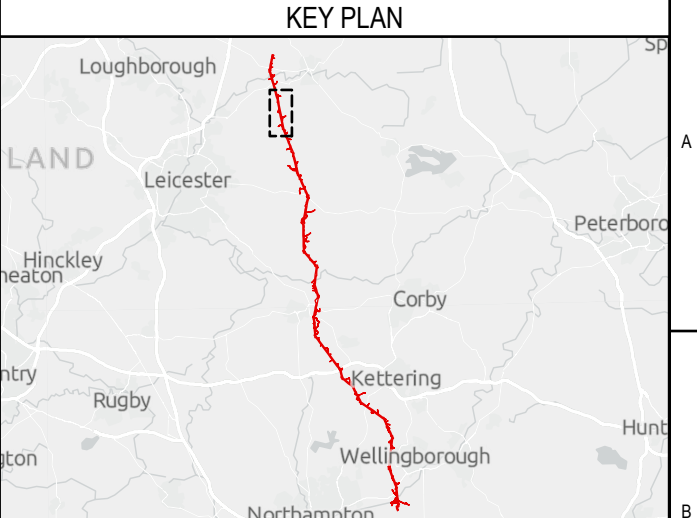
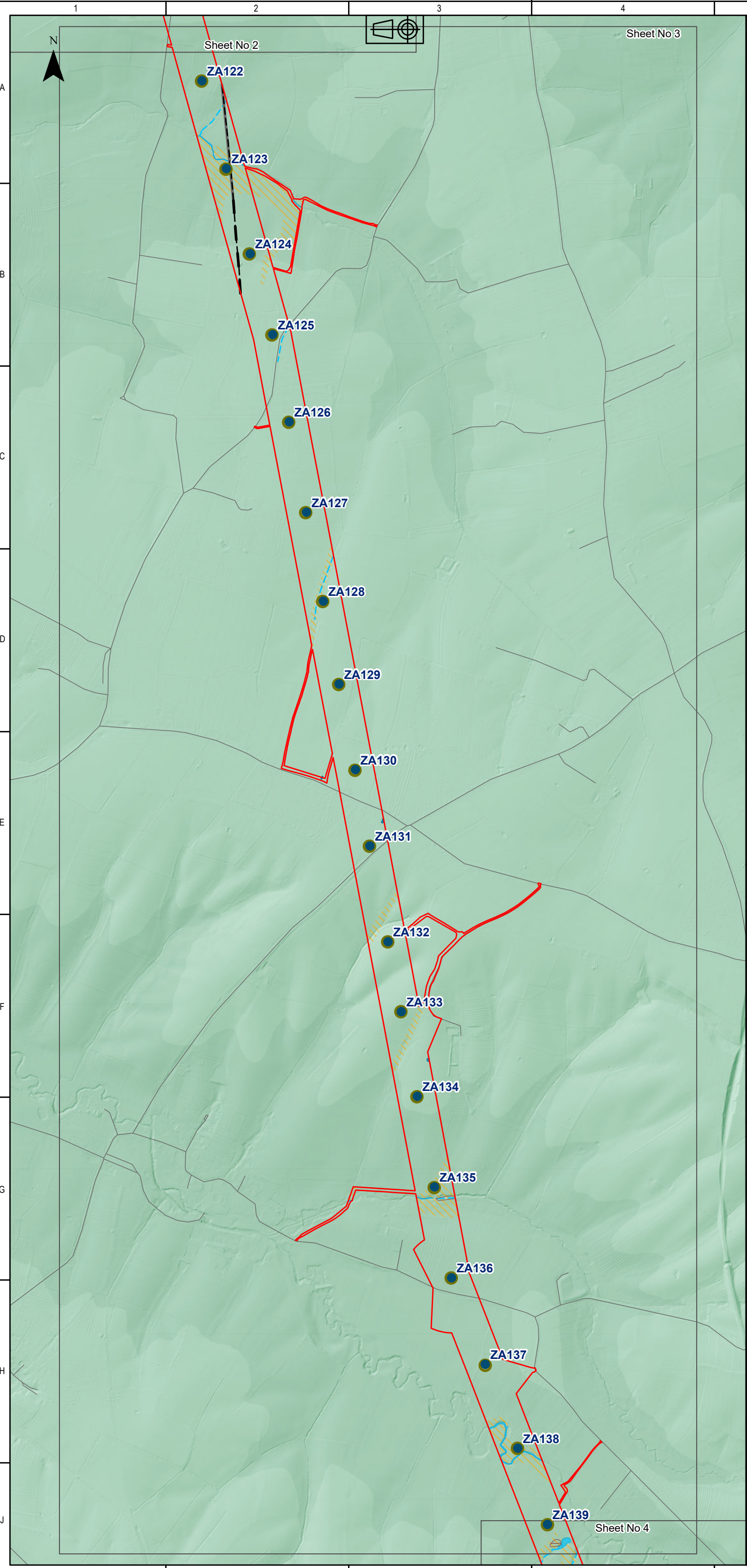
Contractor

AECOM
ARUP

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-2
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 2 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

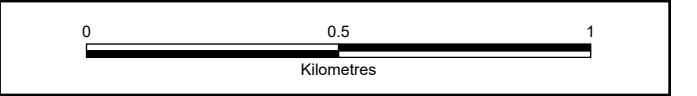


Legend	
 DF2 Rev B Boundary - Reconductoring Area	— OS Open Roads
● Towers	— OS Surface Water Features - Lines
 Recent Industrial Land Uses	 OS Surface Water Features - Areas
 Artificial Made Ground 10K	 Digital Terrain Model LiDAR (1m)
 Worked Ground - Void	 76 - 105
— Faults Linear Features 50K	 106 - 140
— Fault, inferred, crossmark on downthrow side, throw in metres	 141 - 230
— Fault, inferred, displacement unknown	
— Faults Linear Features 10K	
— Fault, inferred, displacement unknown	
 Compressible Deposits	
 Moderate	
 Surface Ground Workings (Use)	
 Pond	

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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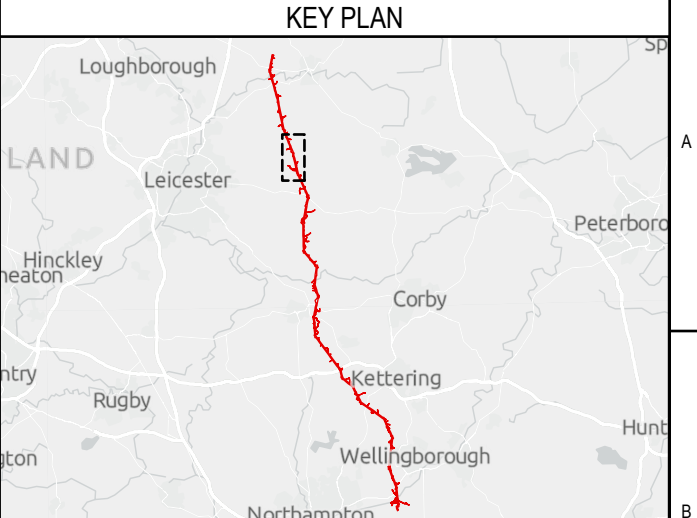
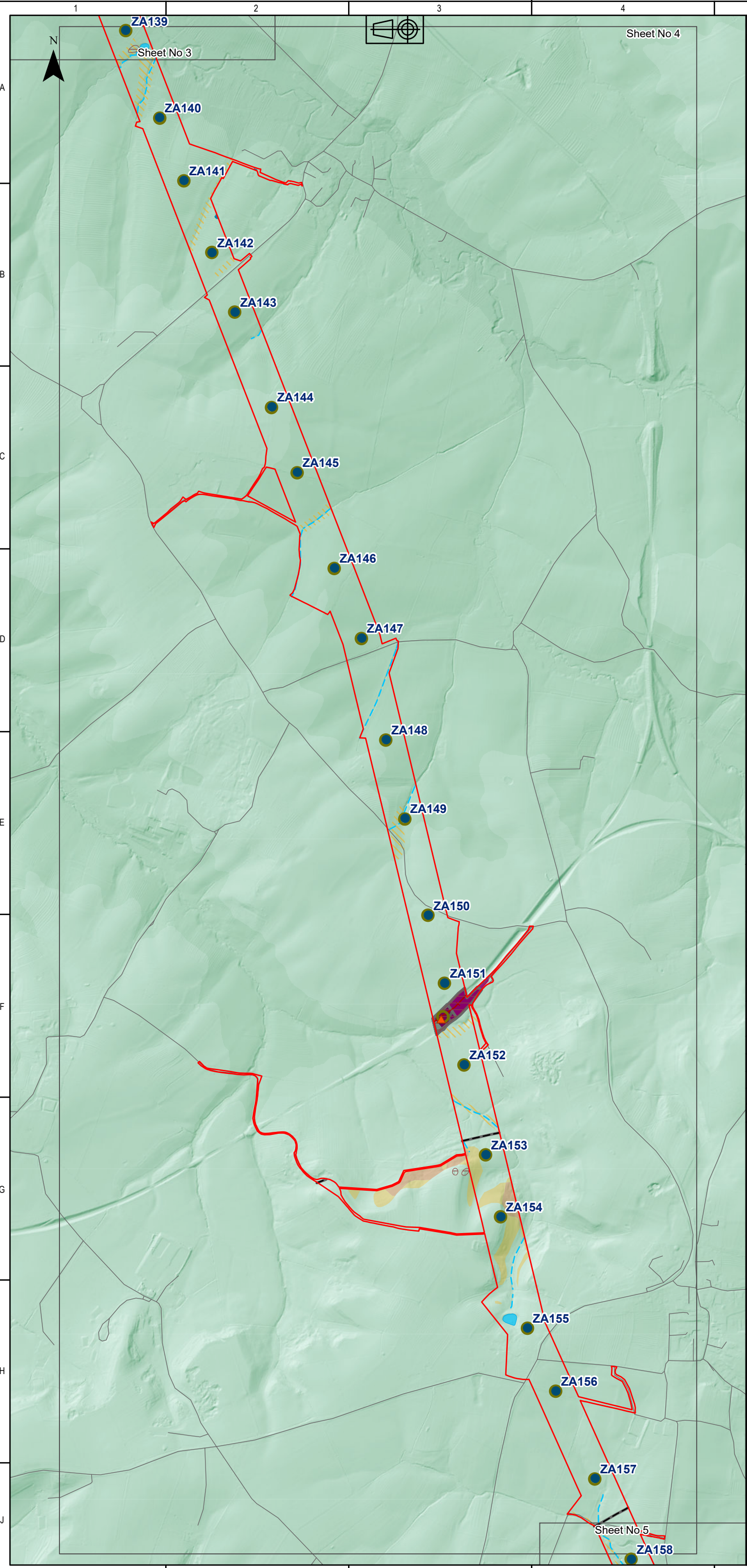
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-3
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 3 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

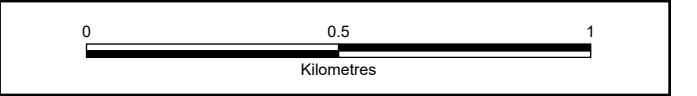


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Artificial Made Ground 10K
 - Made Ground - Artificial deposit
 - Worked Ground - Void
 - Faults Linear Features 50K
 - Fault, inferred, crossmark on downthrow side, throw in metres
 - Faults Linear Features 10K
 - Fault, inferred, displacement unknown
 - Compressible Deposits
 - Moderate
 - Landslides
 - Moderate
 - High
 - Surface Ground Workings (Use)
 - Cuttings
 - Pond
 - OS Open Roads
 - OSM Historical Railway
 - OS Surface Water Features - Lines
 - OS Surface Water Features - Areas
 - Historical Railway Feature LD
 - Digital Terrain Model LiDAR (1m)
 - 76 - 105
 - 106 - 140
 - 141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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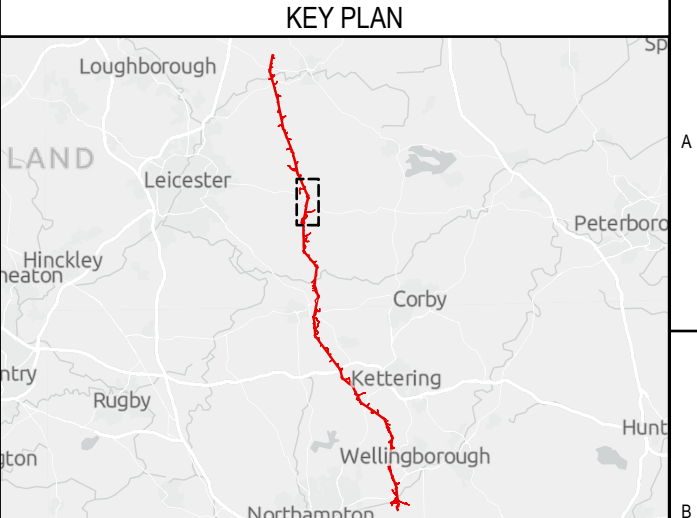
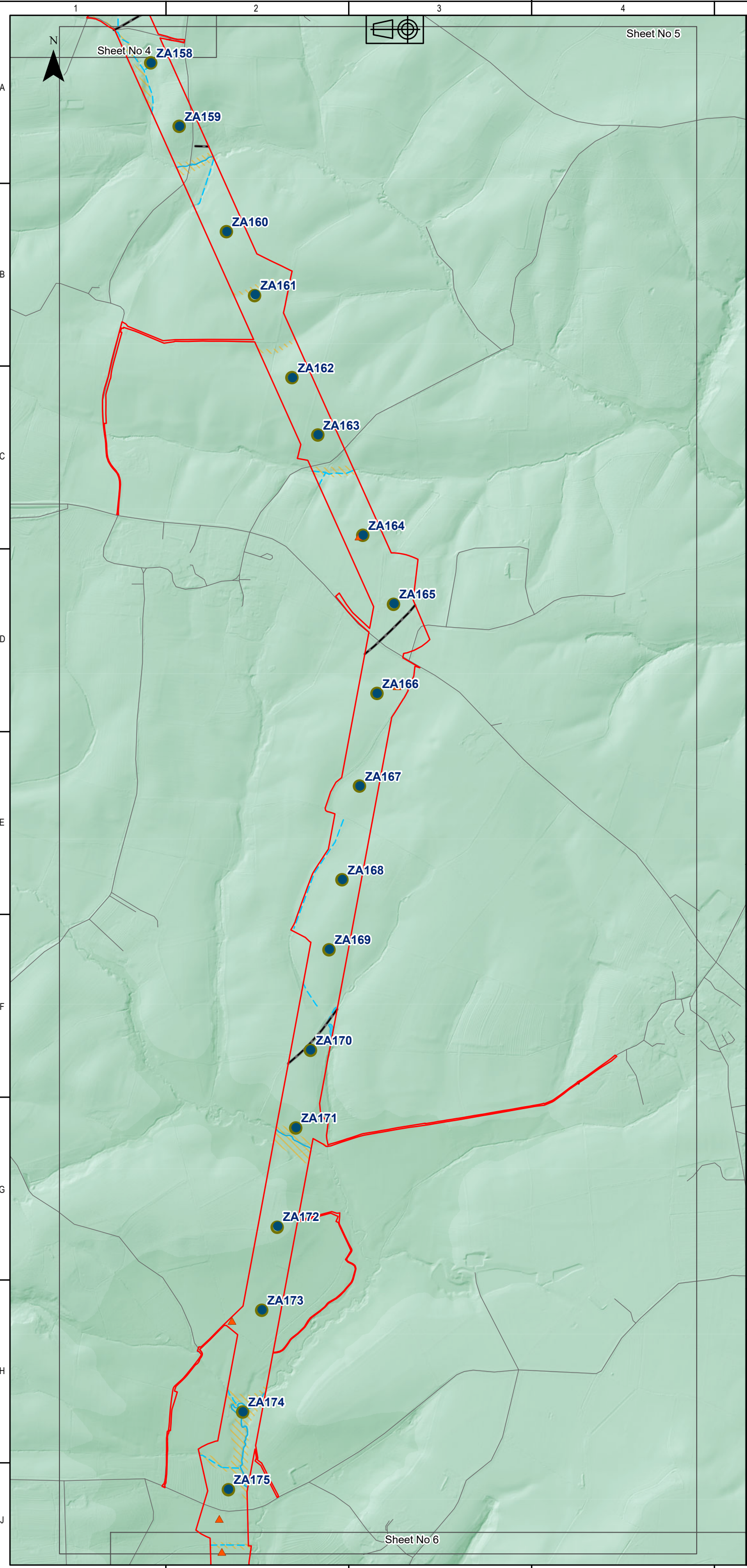
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-4
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 4 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

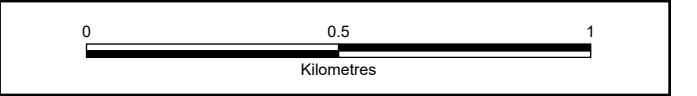


Legend	
— DF2 Rev B Boundary - Reconductoring Area	— OS Open Roads
● Towers	— OS Surface Water Features - Lines
▲ Landfill Waste Exemptions	— OS Surface Water Features - Areas
● Recent Industrial Land Uses	Digital Terrain Model LiDAR (1m)
Artificial Made Ground 10K	106 - 140
Worked Ground - Void	141 - 230
Faults Linear Features 50K	
— Fault, inferred, crossmark on downthrow side, throw in metres	
Faults Linear Features 10K	
— Fault, inferred, displacement unknown	
Compressible Deposits	
— Moderate	

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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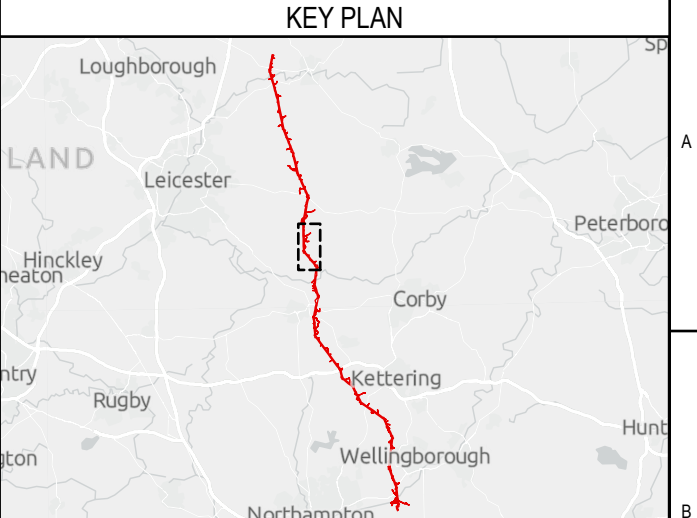
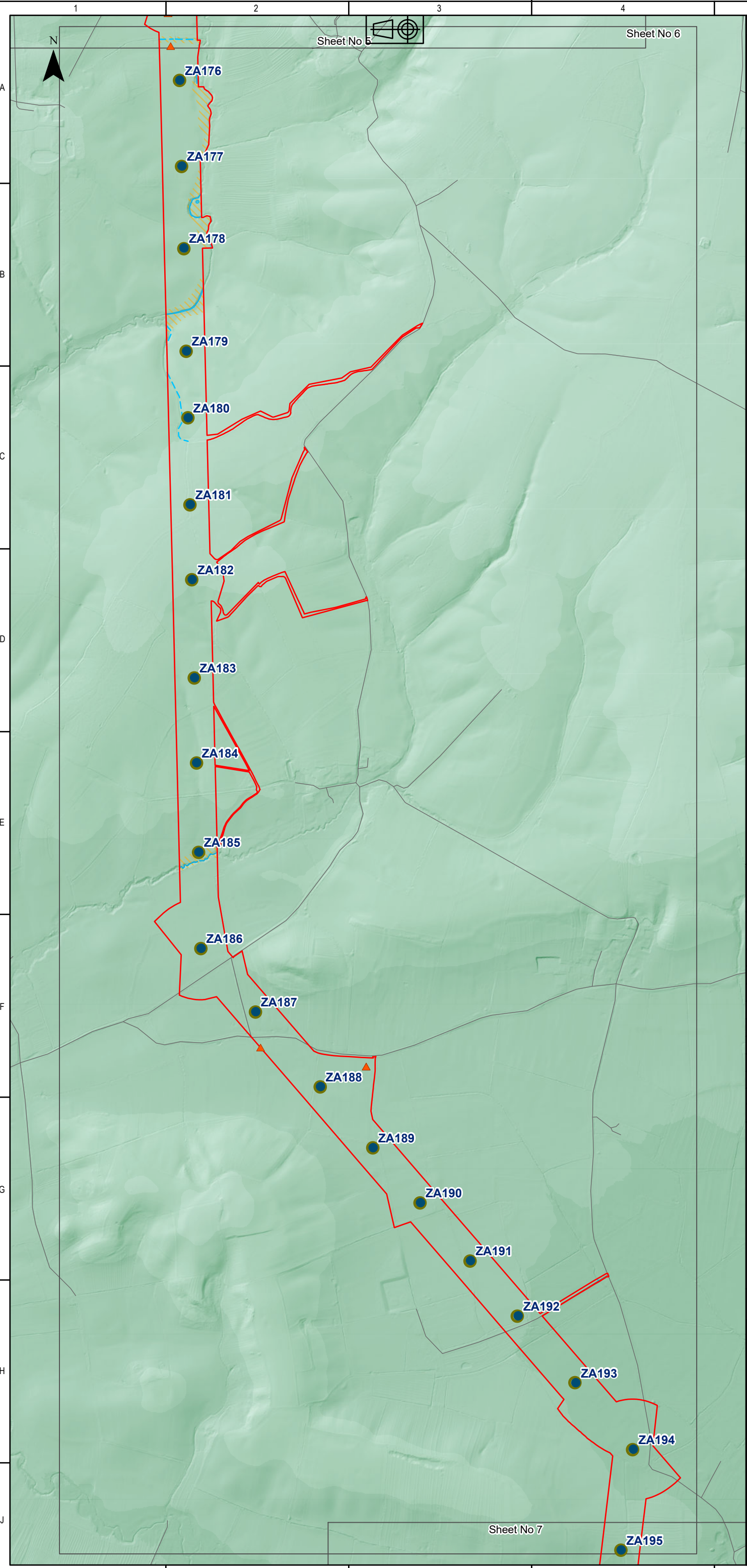
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-5
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information			Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042			Revision P03
Customer Drawing No. N/A			Issue A
Drawn A.WALSH		Checked M.BLAKEY	
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000
		Size A3	

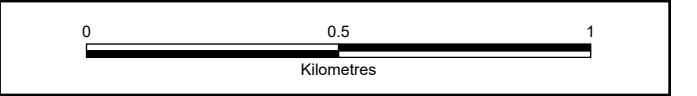


Legend	
—	DF2 Rev B Boundary - Reconductoring Area
●	Towers
▲	Landfill Waste Exemptions
○	Recent Industrial Land Uses
▨	Compressible Deposits
▨	Moderate
—	OS Open Roads
—	OS Surface Water Features - Lines
▨	OS Surface Water Features - Areas
Digital Terrain Model LiDAR (1m)	
■	31 - 75
■	76 - 105
■	106 - 140
■	141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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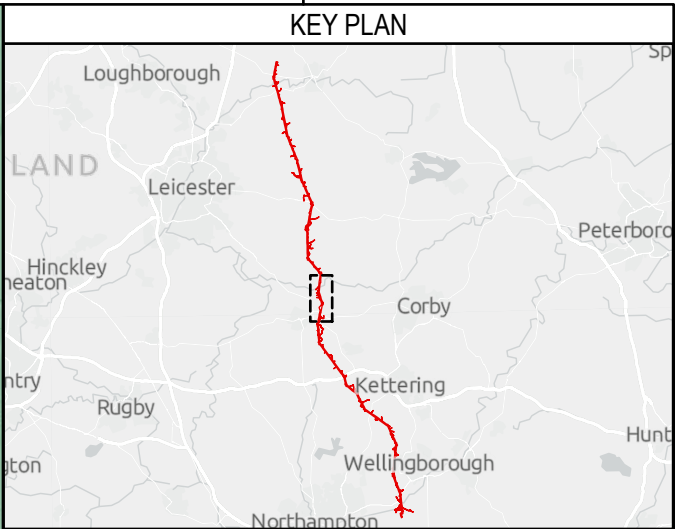
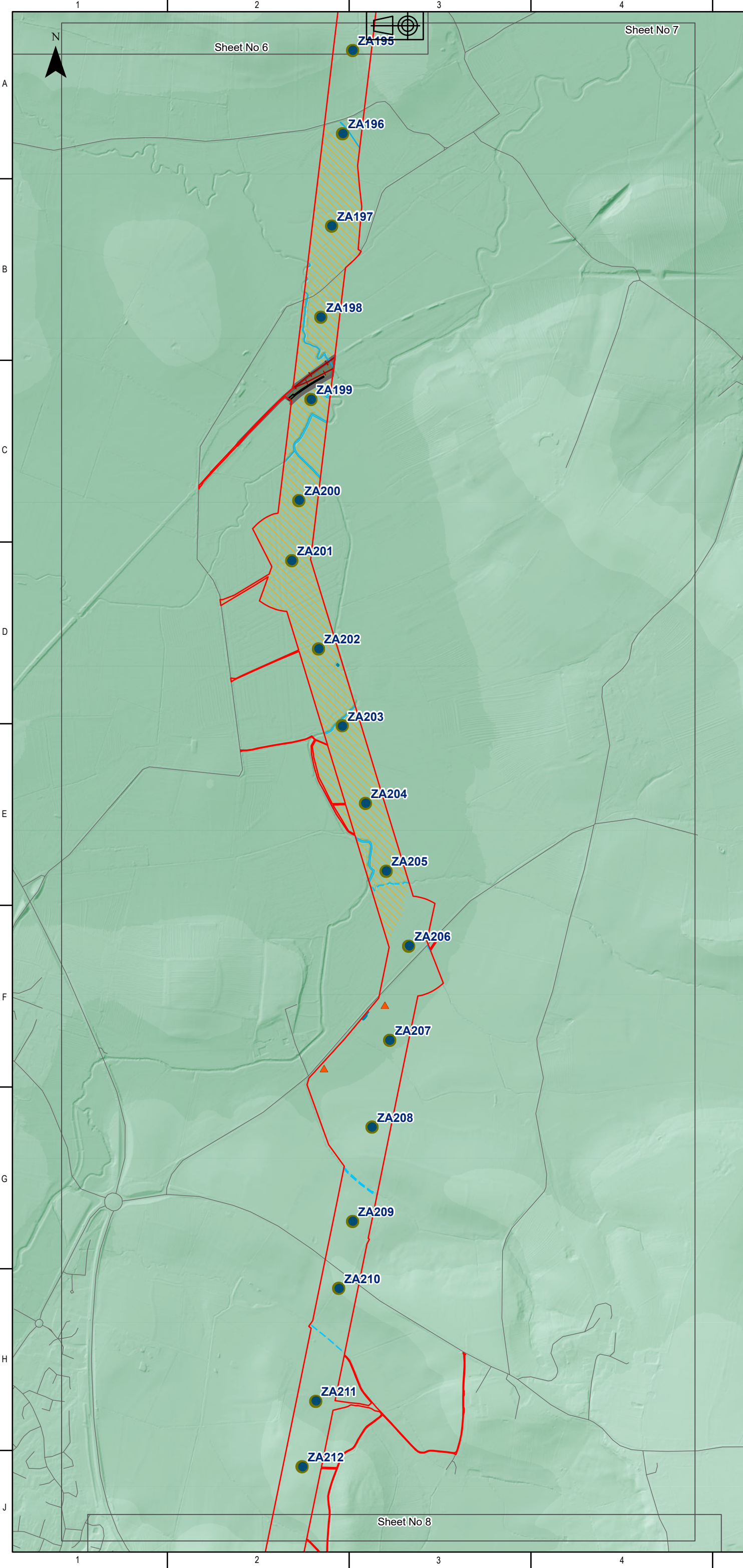
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-6
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information			Status S3	
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042			Revision P03	
Customer Drawing No. N/A			Sheet 6 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

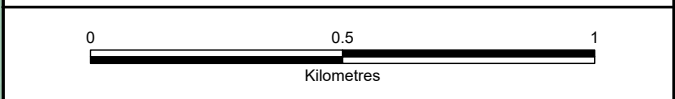


Legend	
DF2 Rev B Boundary - Reconductoring Area	OS Open Roads
Towers	OSM Historical Railway
Landfill Waste Exemptions	OS Surface Water Features - Lines
Recent Industrial Land Uses	OS Surface Water Features - Areas
Compressible Deposits	Historical Railway Feature HD
Moderate	Historical Railway Feature LD
Surface Ground Workings (Use)	Digital Terrain Model LiDAR (1m)
Pond	31 - 75
Sewage Works	76 - 105
	106 - 140
	141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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nationalgrid

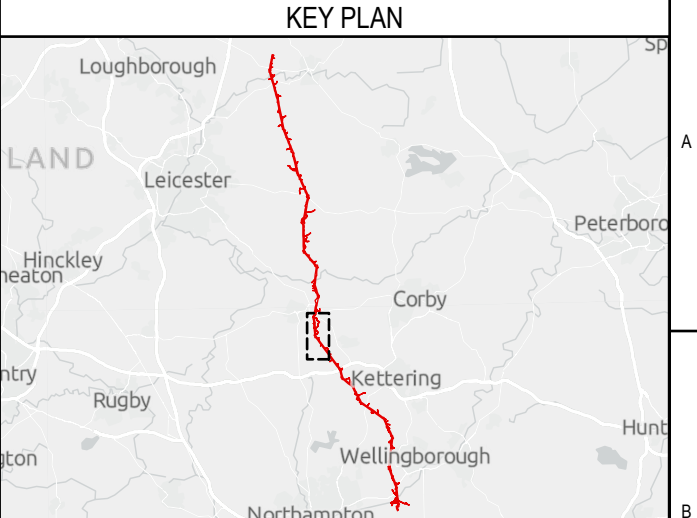
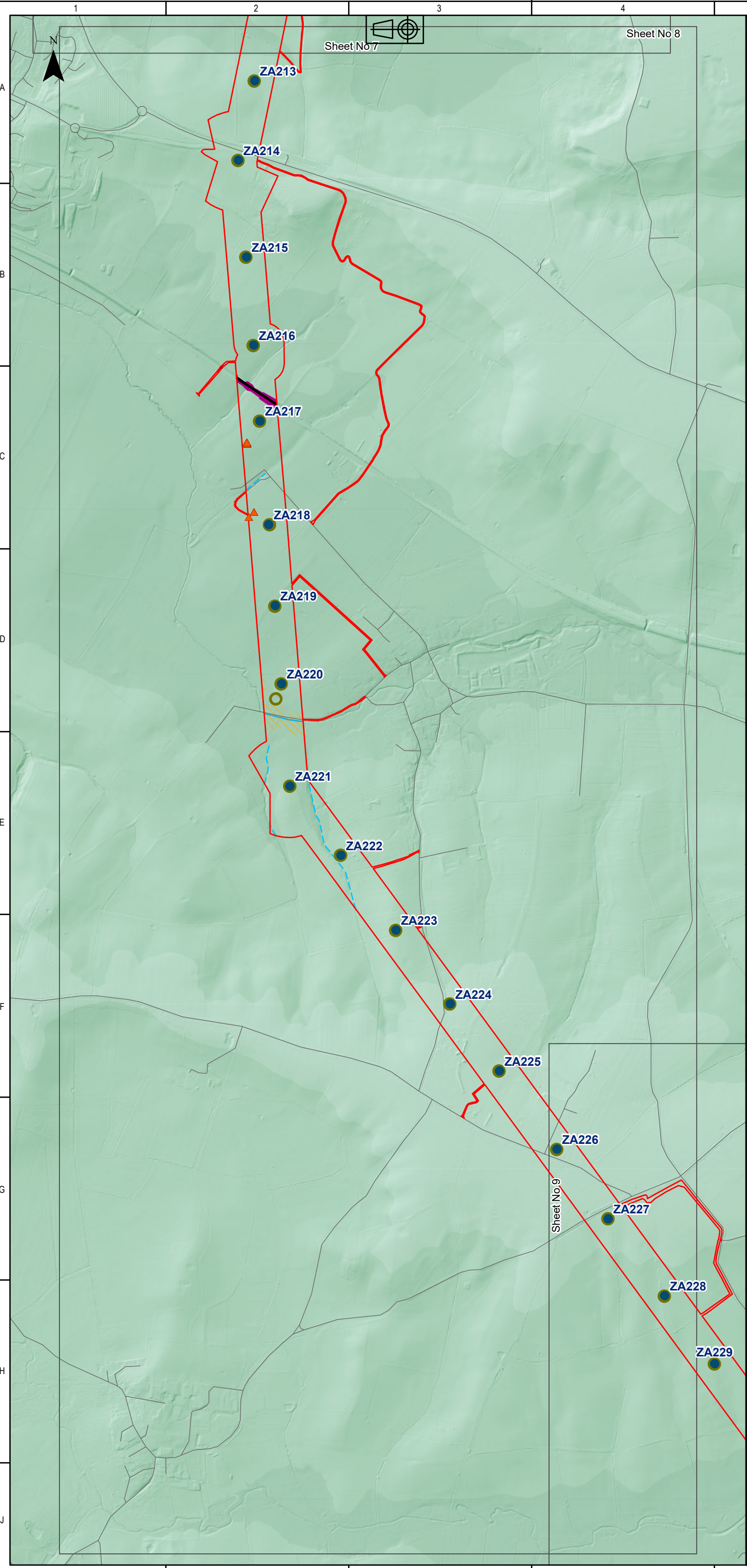
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

AECOM
ARUP

Site
Weston Marsh to East Leicestershire

Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 10-7 Anticipated Geotechnical Hazards and Constraints					
Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042					Revision P03
Customer Drawing No. N/A				Sheet 7 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	

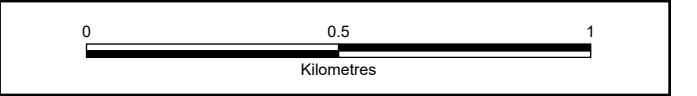


Legend		
 DF2 Rev B Boundary - Reconductoring Area	 OS Open Roads	
 Towers	 OS Surface Water Features - Lines	
 Landfill Waste Exemptions	 OS Surface Water Features - Areas	
 Recent Industrial Land Uses	 Historical Railway Feature HD	
Compressible Deposits		
 Moderate	Digital Terrain Model LiDAR (1m)	
Surface Ground Workings (Use)		
 Cuttings		
 76 - 105		
 106 - 140		
 141 - 230		

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P01	16/03/2026	First issue	DM	SL	MB	KN
Rev.	Date	Comment	Des	Drw by	Check	Appr.

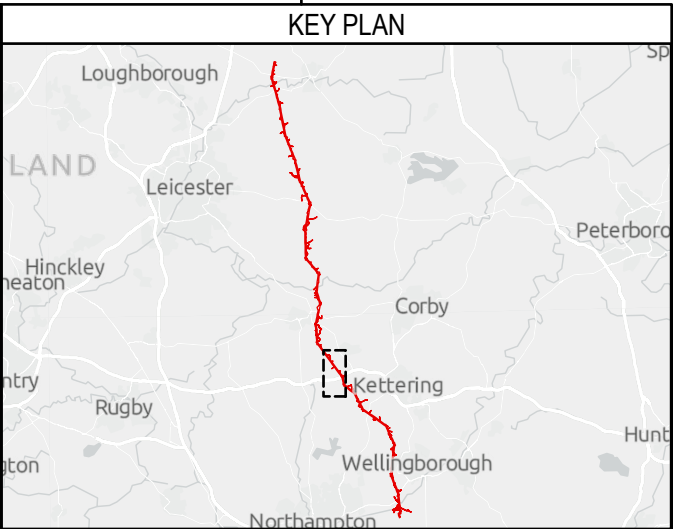
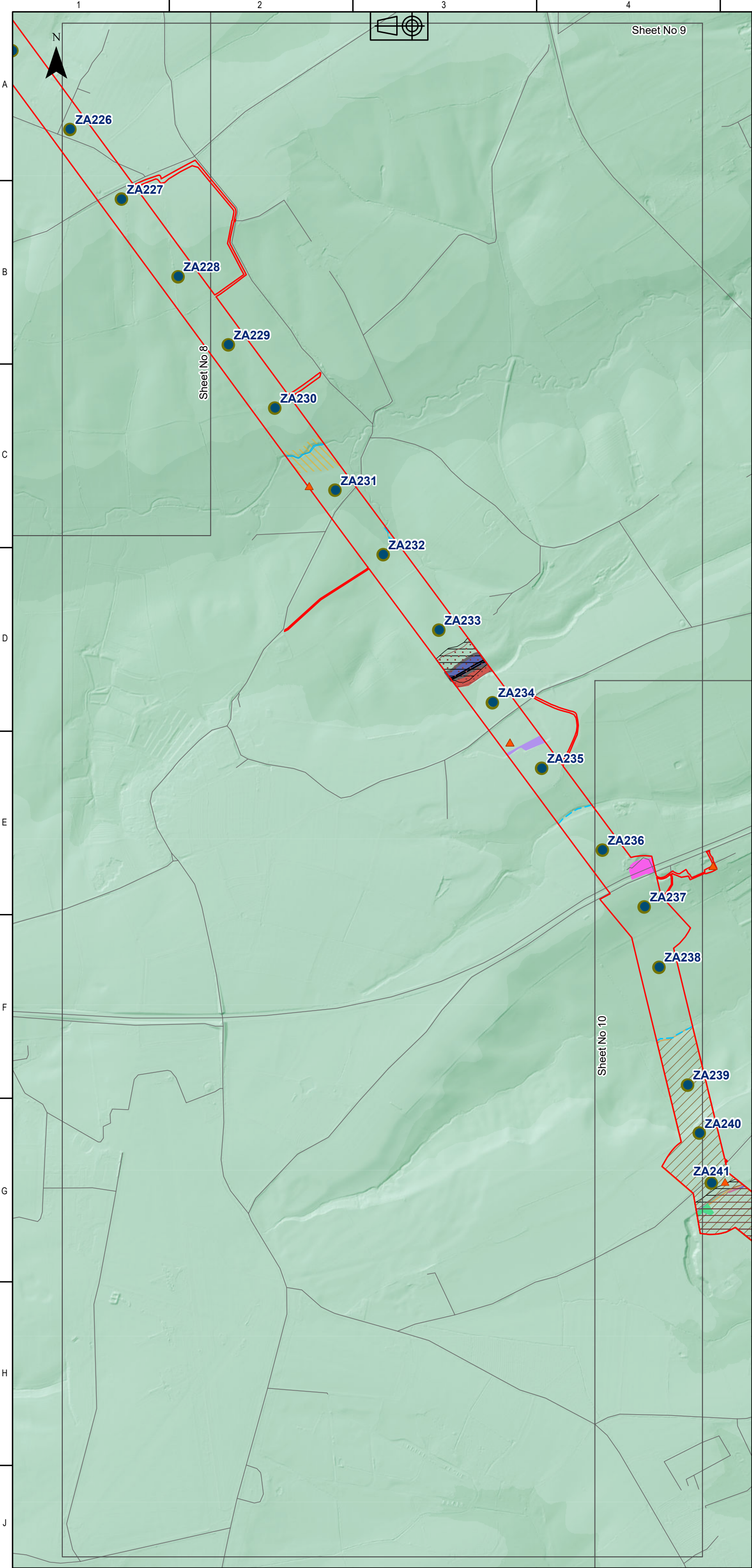
NATIONAL GRID INVESTMENT NUMBER: 101746-203470

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 10-8 Anticipated Geotechnical Hazards and Constraints					
Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042					Revision P03
Customer Drawing No. N/A				Sheet 8 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	



Legend

DF2 Rev B Boundary - Reconductoring Area

Towers

Landfill Waste Exemptions

Recent Industrial Land Uses

Artificial Made Ground 50K

Worked Ground - Void

Artificial Made Ground 10K

Worked Ground - Void

Infilled Ground - Artificial deposit

Compressible Deposits

Moderate

Surface Ground Workings (Use)

Disused Ironstone Quarry

Ironstone Quarry

Sand Pit

Unspecified Disused Quarry

Unspecified Old Quarry

Unspecified Pits

Unspecified Quarry

Historical Mineral Planning Area

OS Open Roads

OS Surface Water Features - Lines

OS Surface Water Features - Areas

Historical Railway Feature HD

Historical Railway Feature LD

Digital Terrain Model LiDAR (1m)

76 - 105

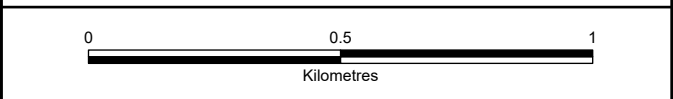
106 - 140

141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P02	24/04/2026	Second issue	COB	SL	MB	JC
P01	16/03/2026	First issue	DM	SL	MB	KN
Rev.	Date	Comment	Des	Drw by	Check	Appr.

NATIONAL GRID INVESTMENT NUMBER: 101746-203470

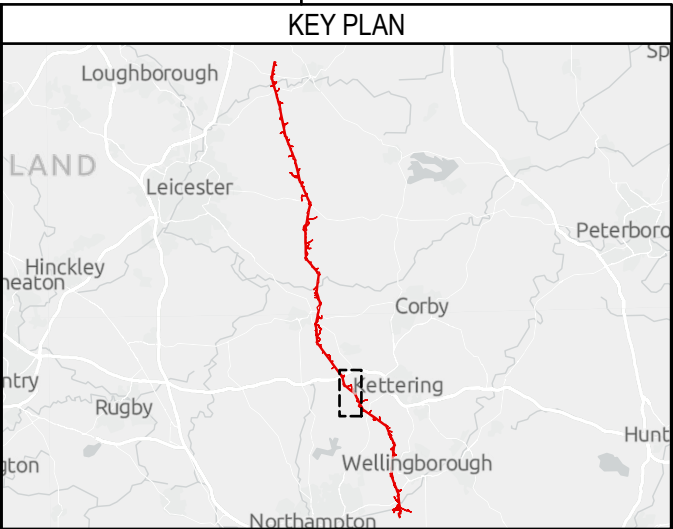
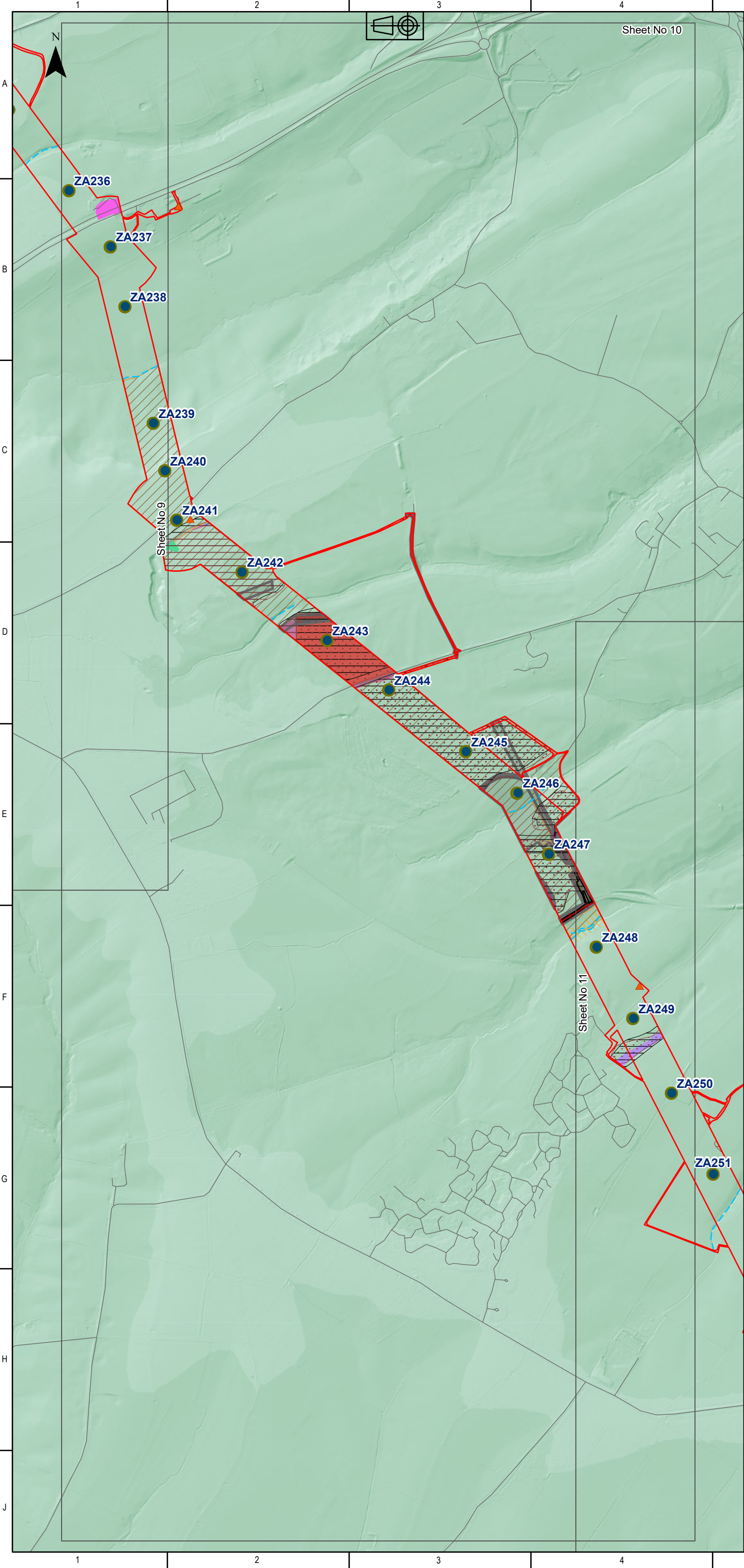
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-9
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 9 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

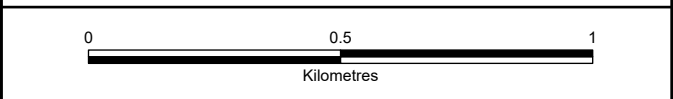


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Artificial Made Ground 50K
 - Worked Ground - Void
 - Artificial Made Ground 10K
 - Worked Ground - Void
 - Infilled Ground - Artificial deposit
 - Compressible Deposits
 - Moderate
 - Surface Ground Workings (Use)
 - Cuttings
 - Disused Ironstone Quarry
 - Ironstone Quarry
 - Sand Pit
 - Unspecified Disused Quarry
 - Unspecified Old Quarry
 - Unspecified Pits
 - Unspecified Quarry
 - Historical Mineral Planning Area
 - OS Open Roads
 - OSM Historical Railway
 - OS Surface Water Features - Lines
 - Historical Railway Feature HD
 - Historical Railway Feature LD
 - Digital Terrain Model LiDAR (1m)
 - 76 - 105
 - 106 - 140
 - 141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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P01	16/03/2026	First issue	DM	SL	MB	KN
Rev.	Date	Comment	Des	Drw by	Check	Appr.

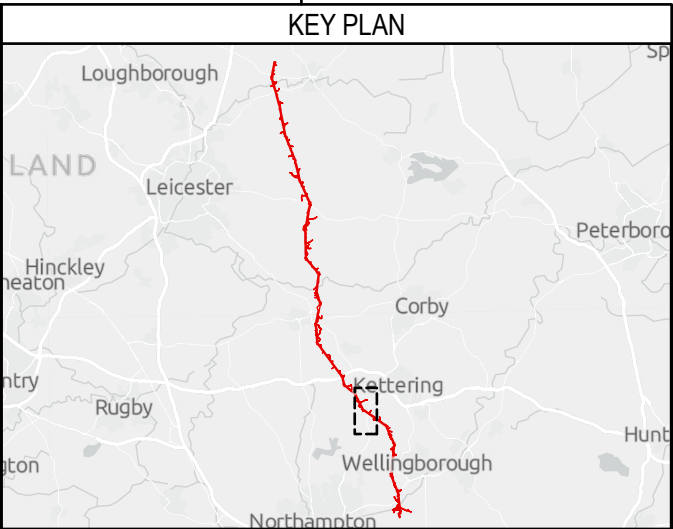
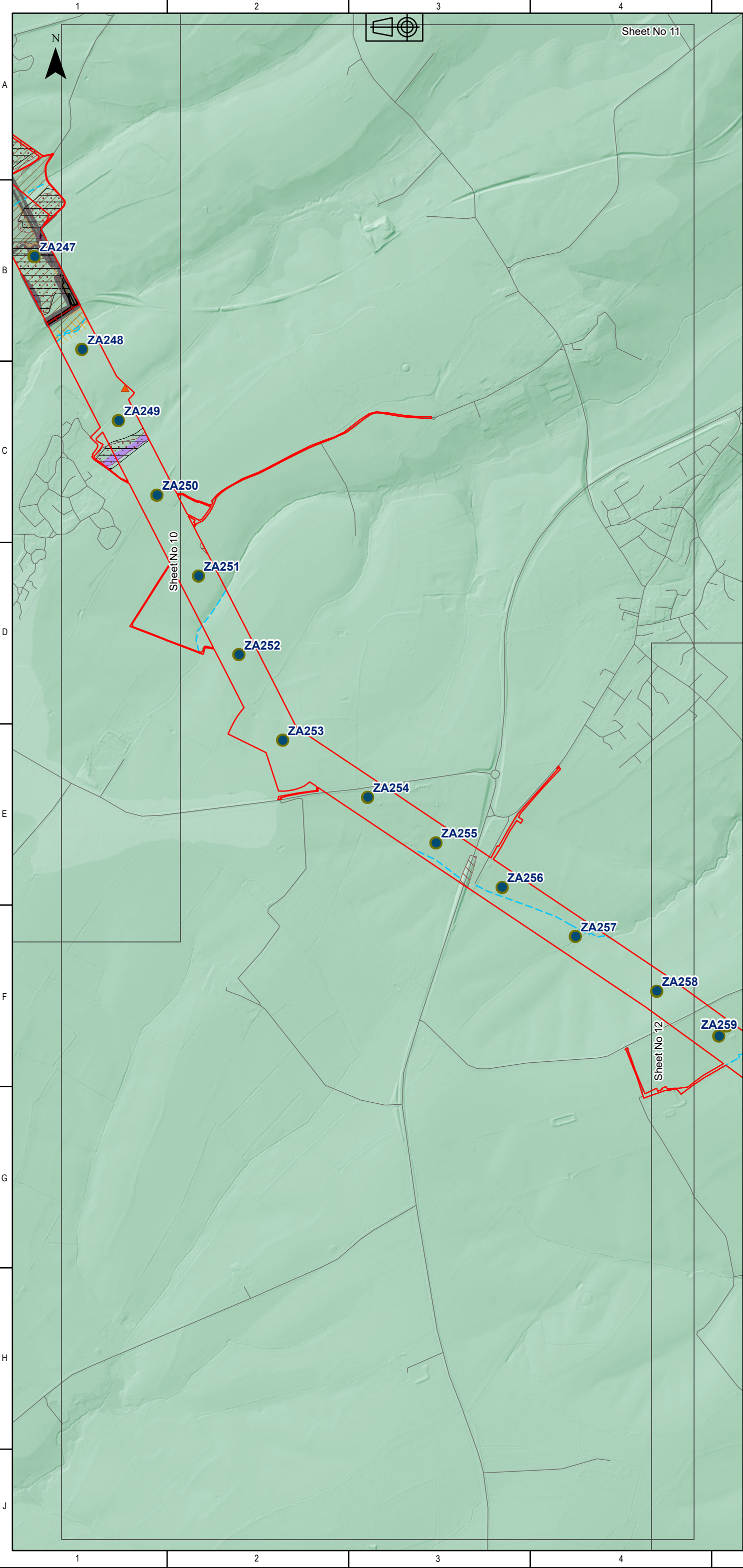
NATIONAL GRID INVESTMENT NUMBER: 101746-203470

National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 10-10 Anticipated Geotechnical Hazards and Constraints					
Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042					Revision P03
Customer Drawing No. N/A				Sheet 10 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	

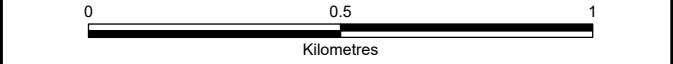


- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Artificial Made Ground 50K
 - Worked Ground - Void
 - Artificial Made Ground 10K
 - Made Ground - Artificial deposit
 - Worked Ground - Void
 - Infilled Ground - Artificial deposit
 - Compressible Deposits
 - Moderate
 - Surface Ground Workings (Use)
 - Cuttings
 - Unspecified Old Quarry
 - Unspecified Quarry
 - Historical Mineral Planning Area
 - OS Open Roads
 - OSM Historical Railway
 - OS Surface Water Features - Lines
 - Historical Railway Feature HD
 - Historical Railway Feature LD
 - Digital Terrain Model LiDAR (1m)
 - 76 - 105
 - 106 - 140
 - 141 - 230

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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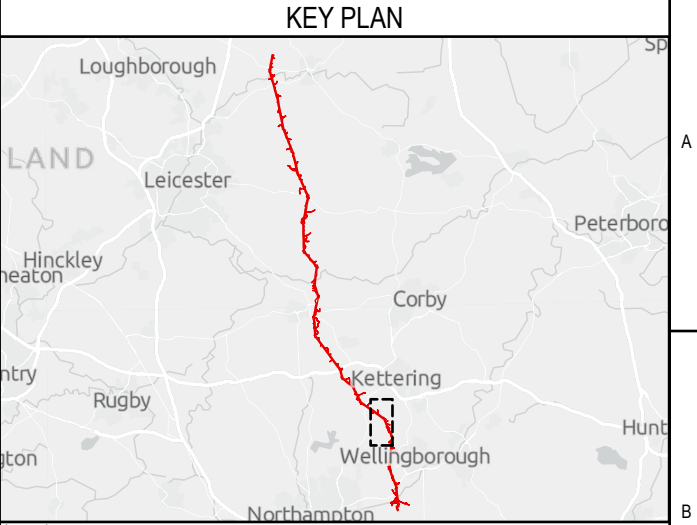
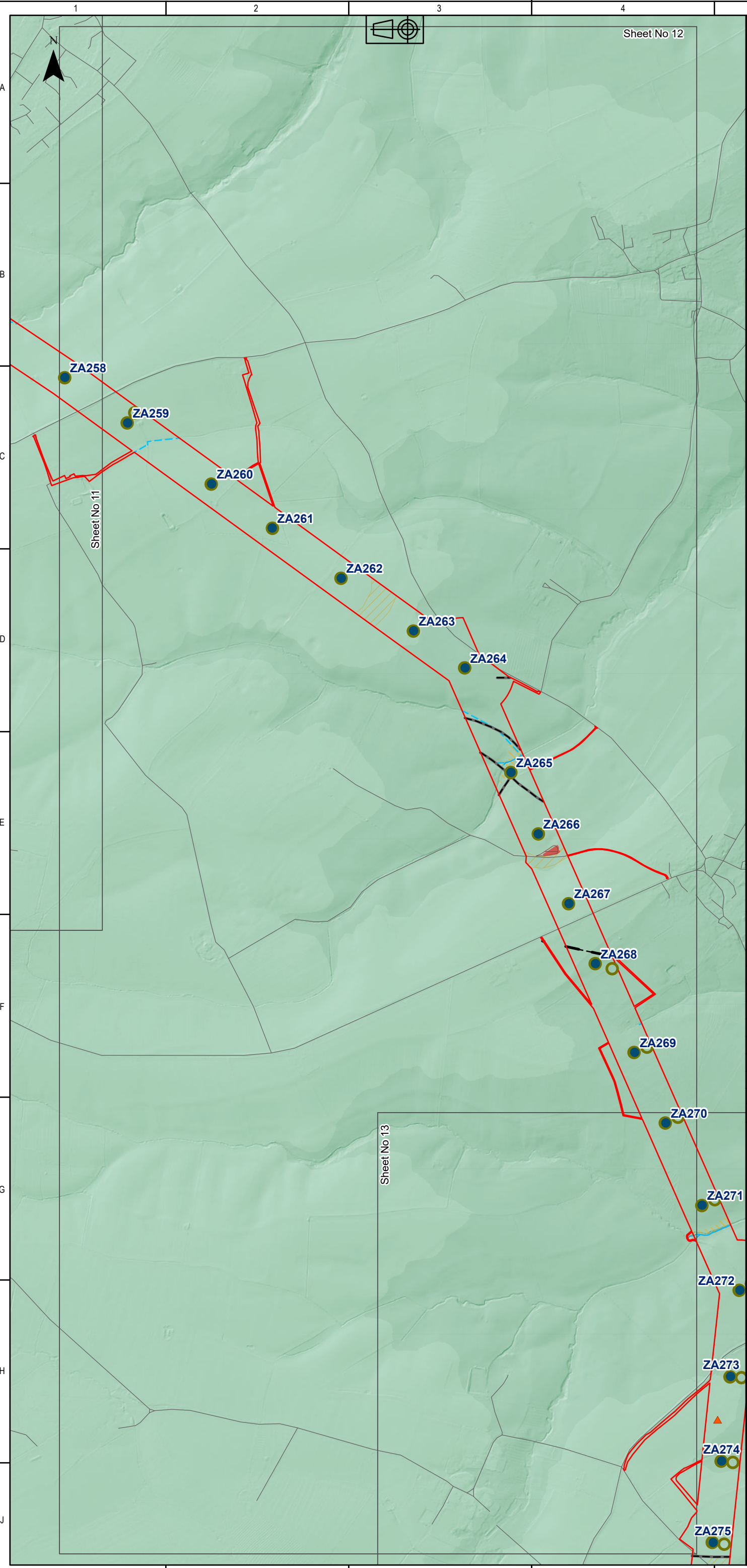
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-11
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 11 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



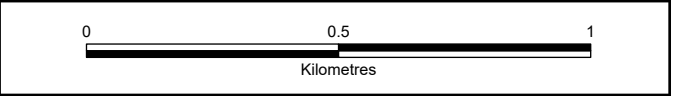
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- Landfill Waste Exemptions
- Recent Industrial Land Uses
- Artificial Made Ground 10K
- Worked Ground - Void
- Faults Linear Features 50K
- Fault, inferred, crossmark on downthrow side, throw in metres
- Fault, inferred, displacement unknown
- Faults Linear Features 10K
- Fault, inferred, displacement unknown
- Ground Dissolution Soluble Rocks
- Moderate
- Compressible Deposits
- Moderate
- Surface Ground Workings (Use)
- Unspecified Disused Quarry
- OS Open Roads
- OS Surface Water Features - Lines
- OS Surface Water Features - Areas
- Digital Terrain Model LiDAR (1m)
- 31 - 75
- 76 - 105
- 106 - 140

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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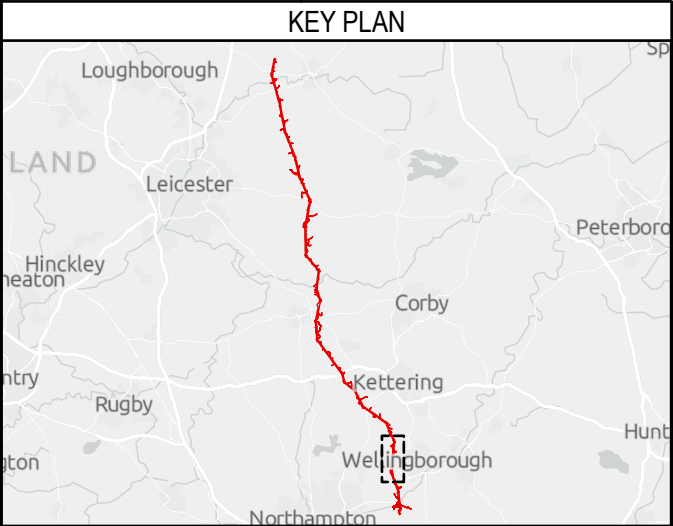
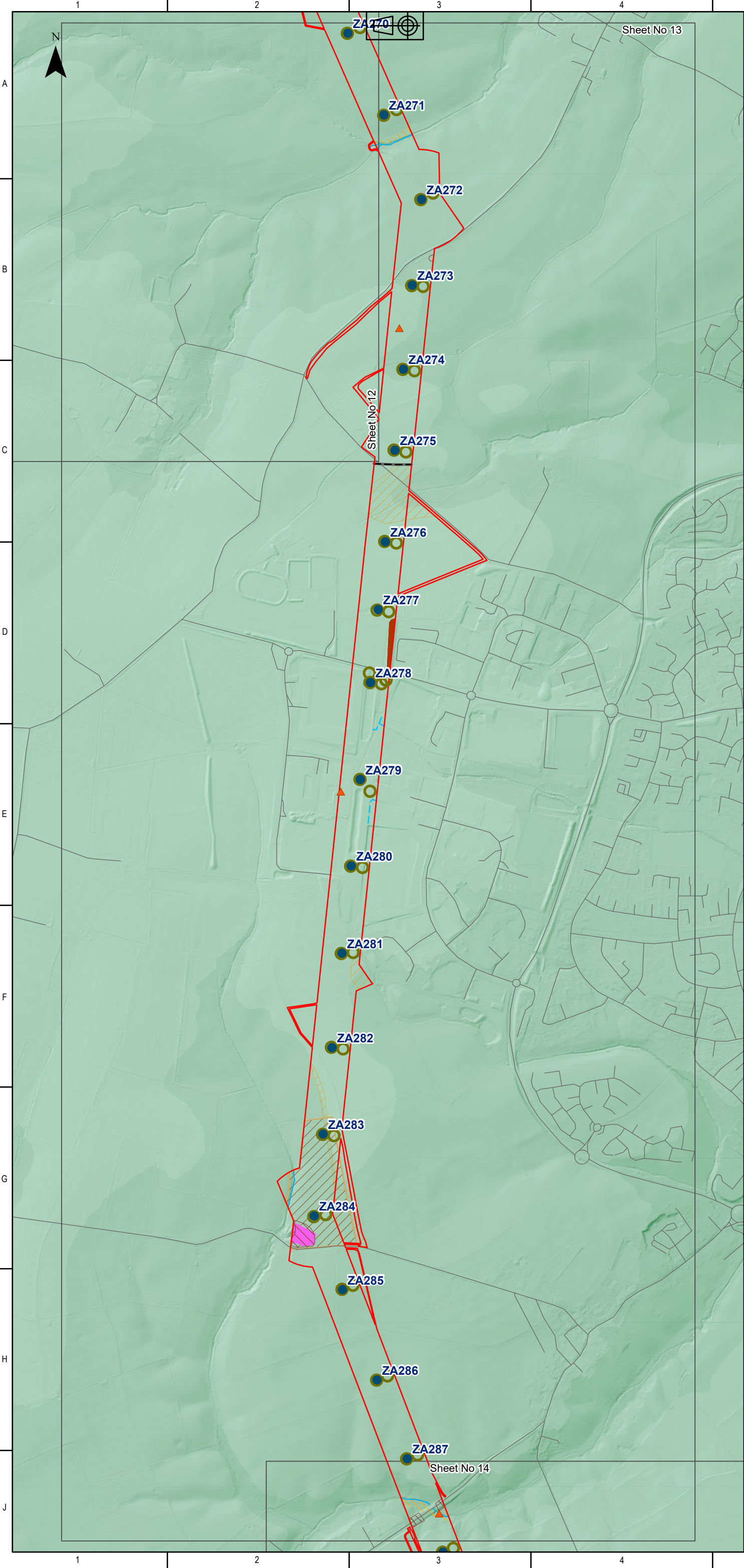
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Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-12
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information	Status S3			
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042	Revision P03			
Customer Drawing No. N/A	Sheet 12 of 14 Issue A			
Drawn A.WALSH	Checked M.BLAKEY			
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

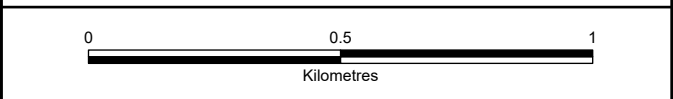


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Artificial Made Ground 10K
 - Made Ground - Artificial deposit
 - Worked Ground - Void
 - Infilled Ground - Artificial deposit
 - Faults Linear Features 50K
 - Fault, inferred, crossmark on downthrow side, throw in metres
 - Faults Linear Features 10K
 - Fault, inferred, displacement unknown
 - Ground Dissolution Soluble Rocks
 - Moderate
 - Compressible Deposits
 - Moderate
 - Surface Ground Workings (Use)
 - Unspecified Heap
 - Sand Pit
 - Historical Mineral Planning Area
 - OS Open Roads
 - OS Surface Water Features - Lines
 - OS Surface Water Features - Areas
 - Digital Terrain Model LiDAR (1m)
 - 31 - 75
 - 76 - 105
 - 106 - 140

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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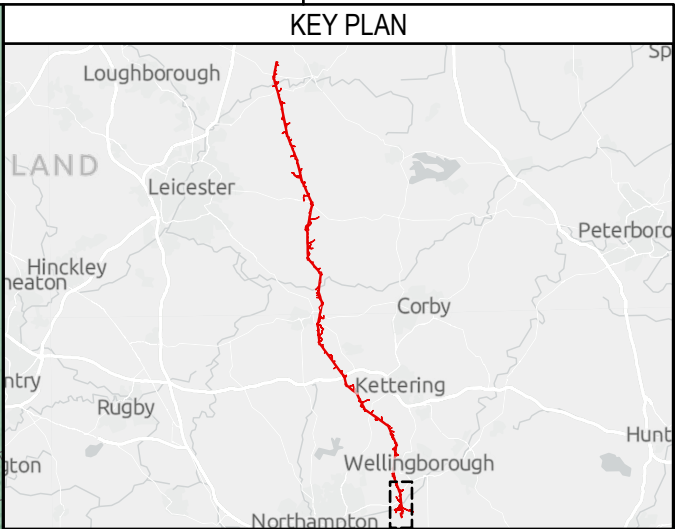
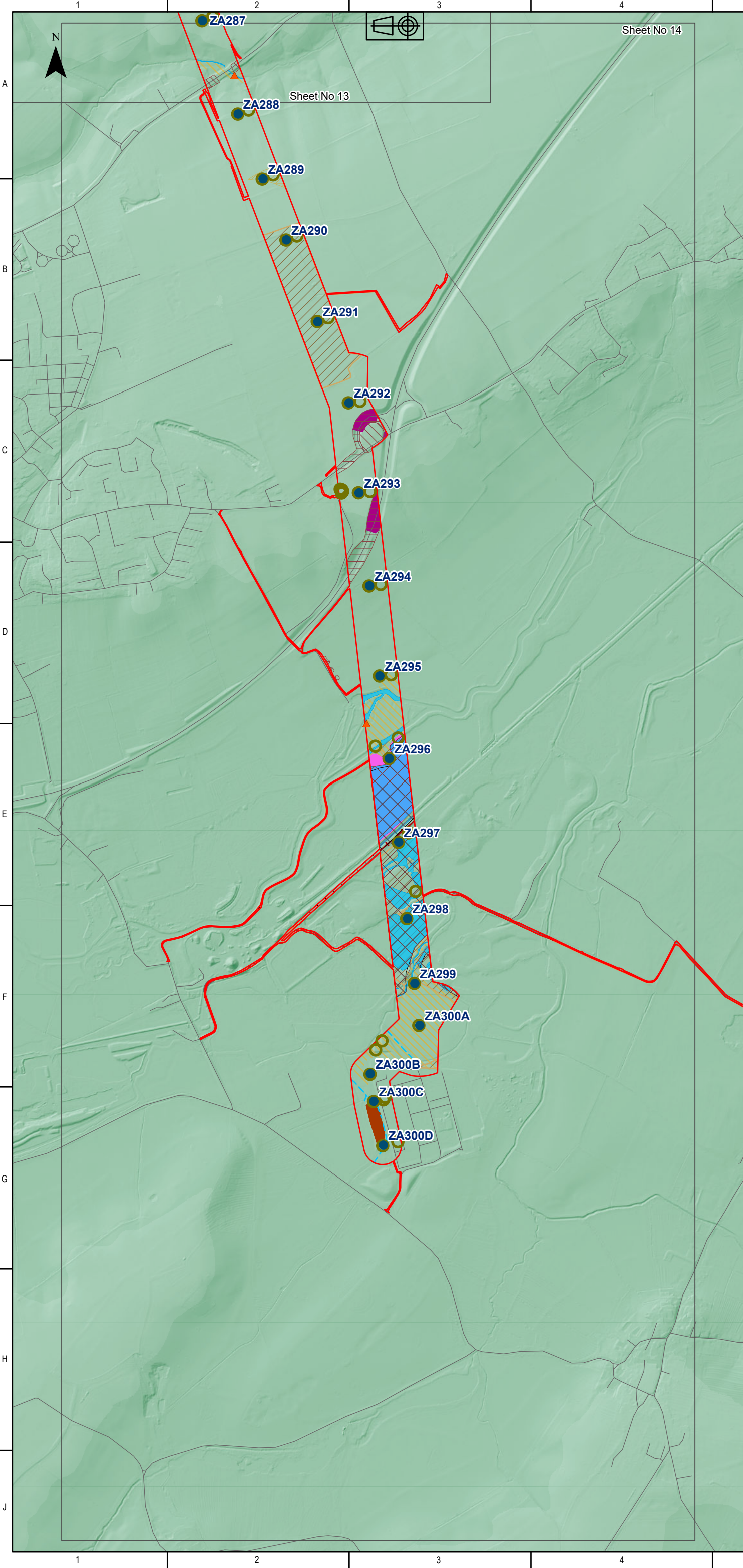
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-13
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information	Status S3			
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042	Revision P03			
Customer Drawing No. N/A	Sheet 13 of 14 Issue A			
Drawn A.WALSH	Checked M.BLAKEY			
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

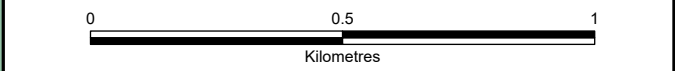


- Legend**
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
 - Landfill Waste Exemptions
 - Recent Industrial Land Uses
 - Artificial Made Ground 50K
 - Disturbed Ground-Artificially modified ground
 - Artificial Made Ground 10K
 - Made Ground - Artificial deposit
 - Worked Ground - Void
 - Disturbed Ground - Artificially modified ground
 - Ground Dissolution Soluble Rocks
 - Moderate
 - Compressible Deposits
 - Moderate
 - Surface Ground Workings (Use)
 - Cuttings
 - Unspecified Heap
 - Sand Pit
 - Water Body
 - Historical Mineral Planning Area
 - OS Open Roads
 - OSM Historical Railway
 - OS Surface Water Features - Lines
 - OS Surface Water Features - Areas
 - Historical Railway Feature LD
 - Digital Terrain Model LiDAR (1m)
 - 31 - 75
 - 76 - 105
 - 106 - 140

Note: Features illustrated have been sourced from Groundsure's Insight product and publicly available datasets. Additional unrecorded hazards and constraints to those shown may be present. Site reconnaissance and ground investigation are required to confirm hazards and constraints.

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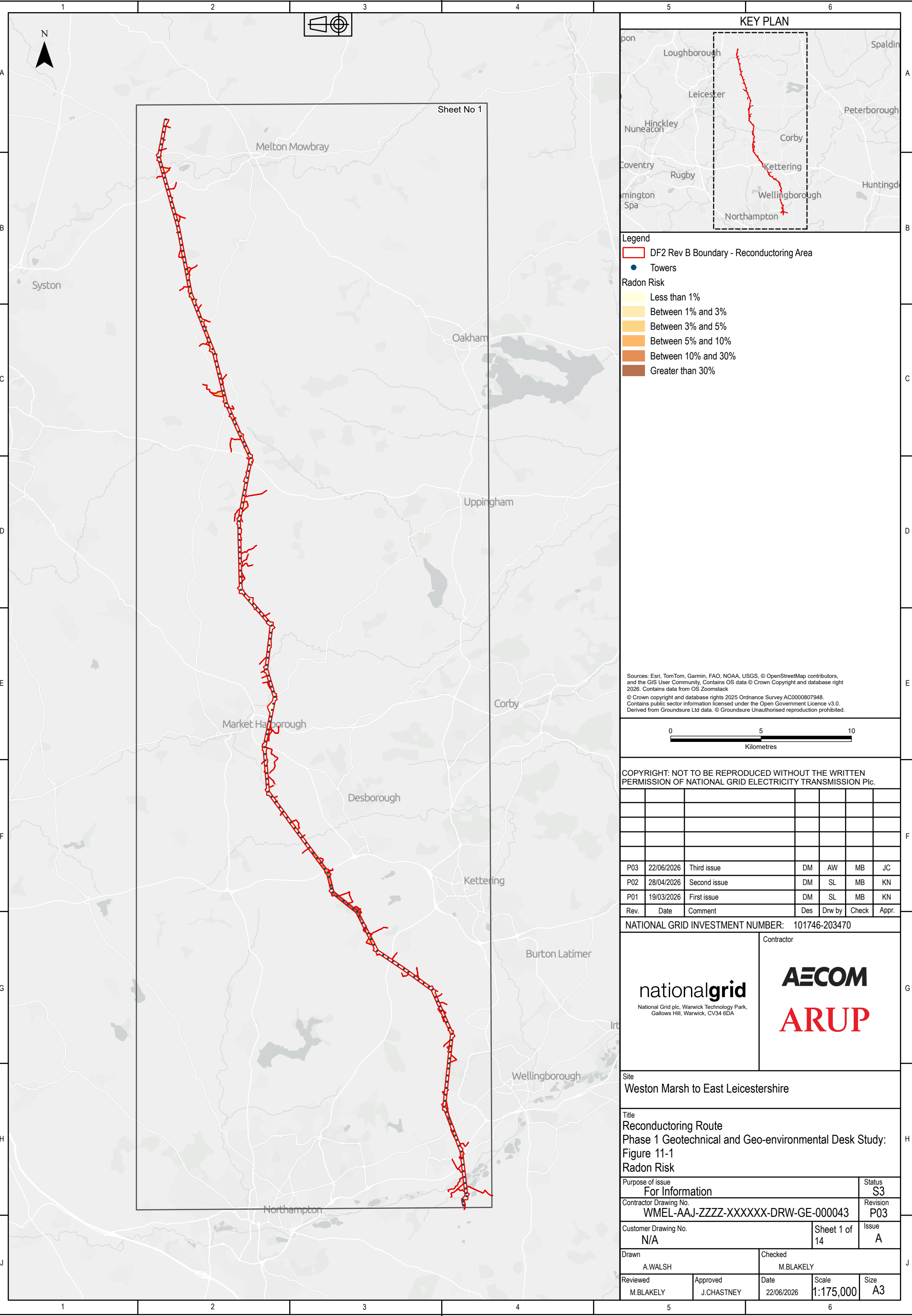
nationalgrid
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor
AECOM
ARUP

Site
Weston Marsh to East Leicestershire

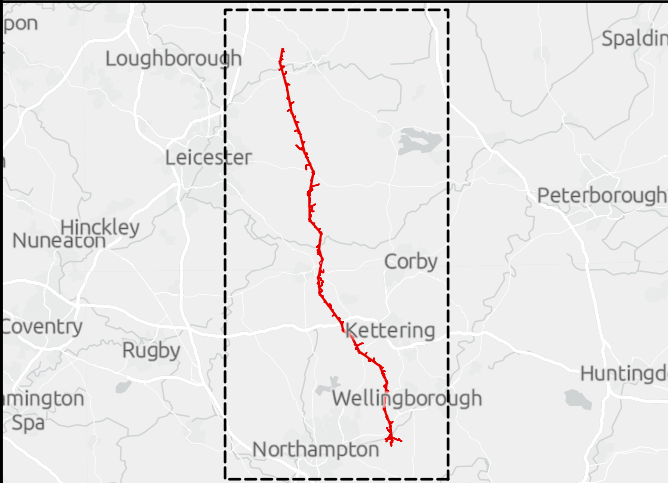
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 10-14
Anticipated Geotechnical Hazards and Constraints

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000042				Revision P03
Customer Drawing No. N/A			Sheet 14 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



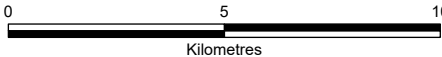
Sheet No 1

KEY PLAN



- Legend
- DF2 Rev B Boundary - Reconductoring Area
 - Towers
- Radon Risk
- Less than 1%
 - Between 1% and 3%
 - Between 3% and 5%
 - Between 5% and 10%
 - Between 10% and 30%
 - Greater than 30%

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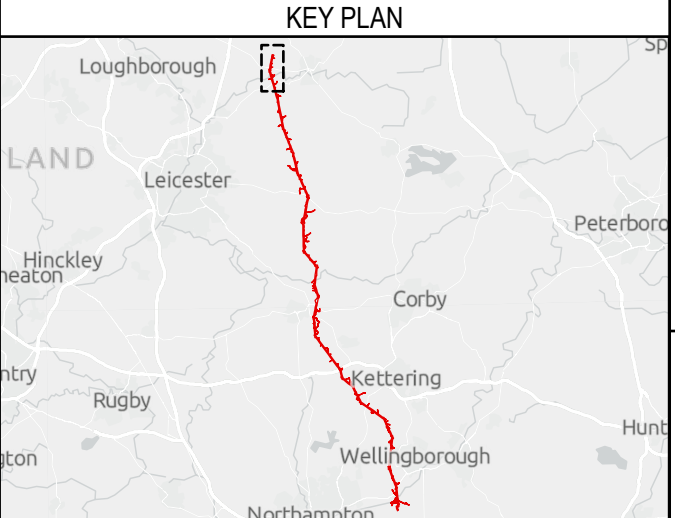
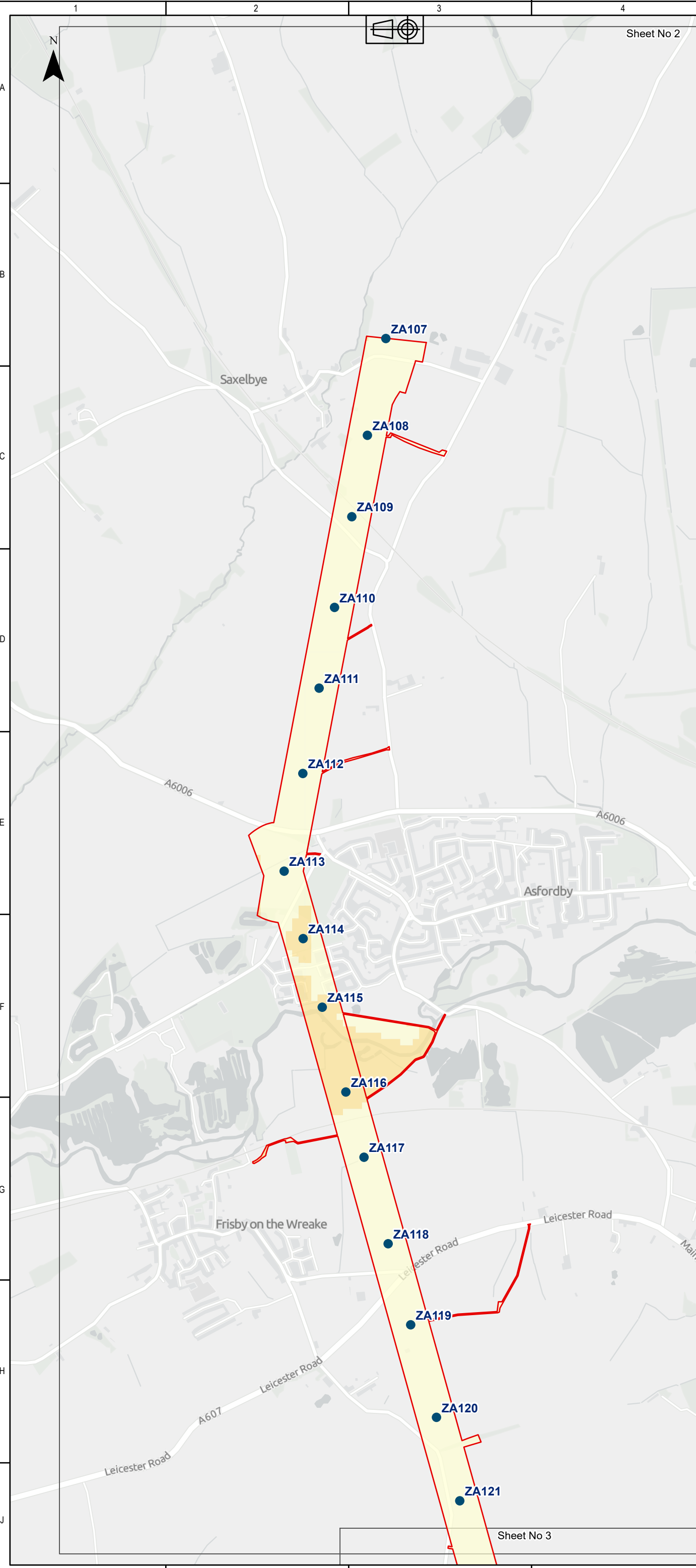
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-1
Radon Risk

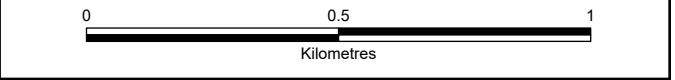
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Customer Drawing No. N/A				Sheet 1 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:175,000	Size A3	



Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- Radon Risk
 - Less than 1%
 - Between 1% and 3%

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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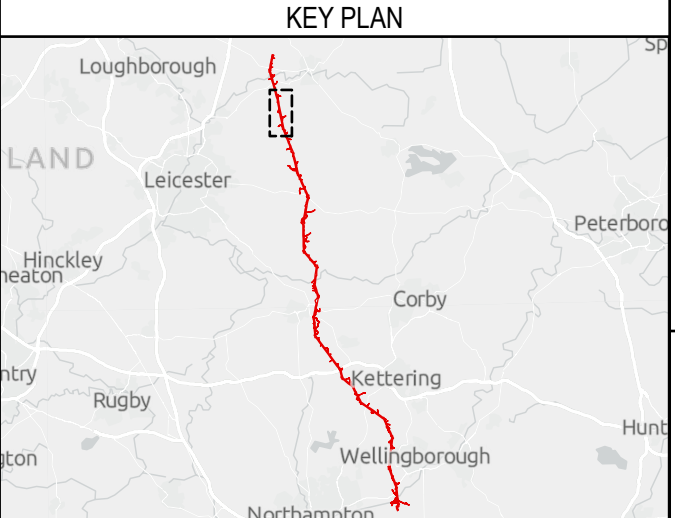
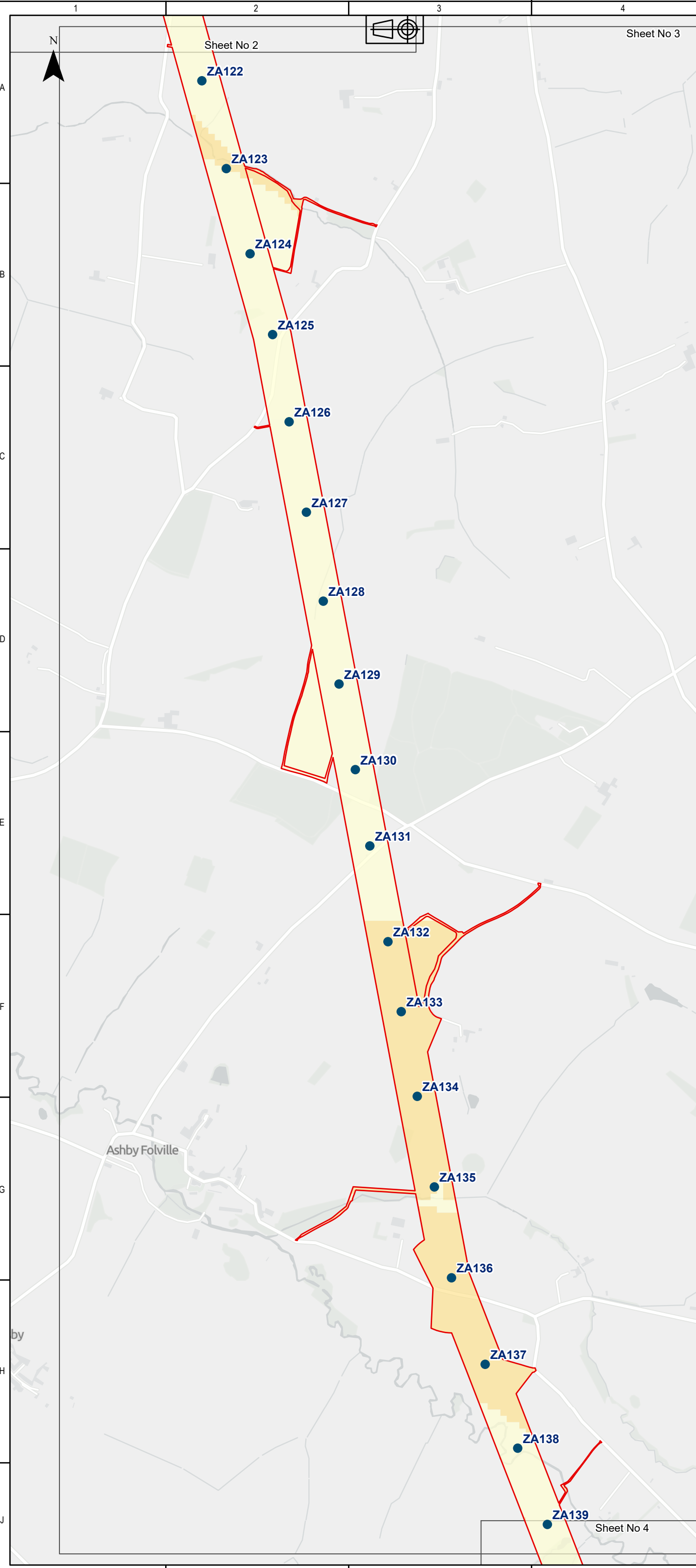
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-2
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 2 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



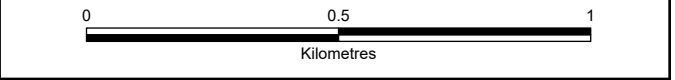
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

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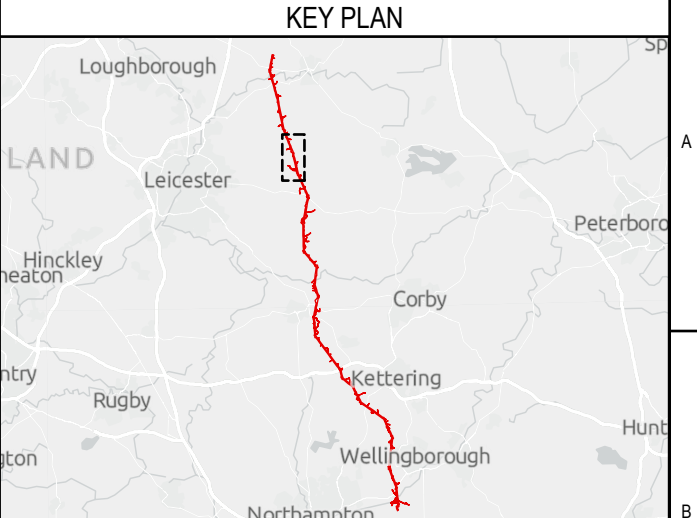
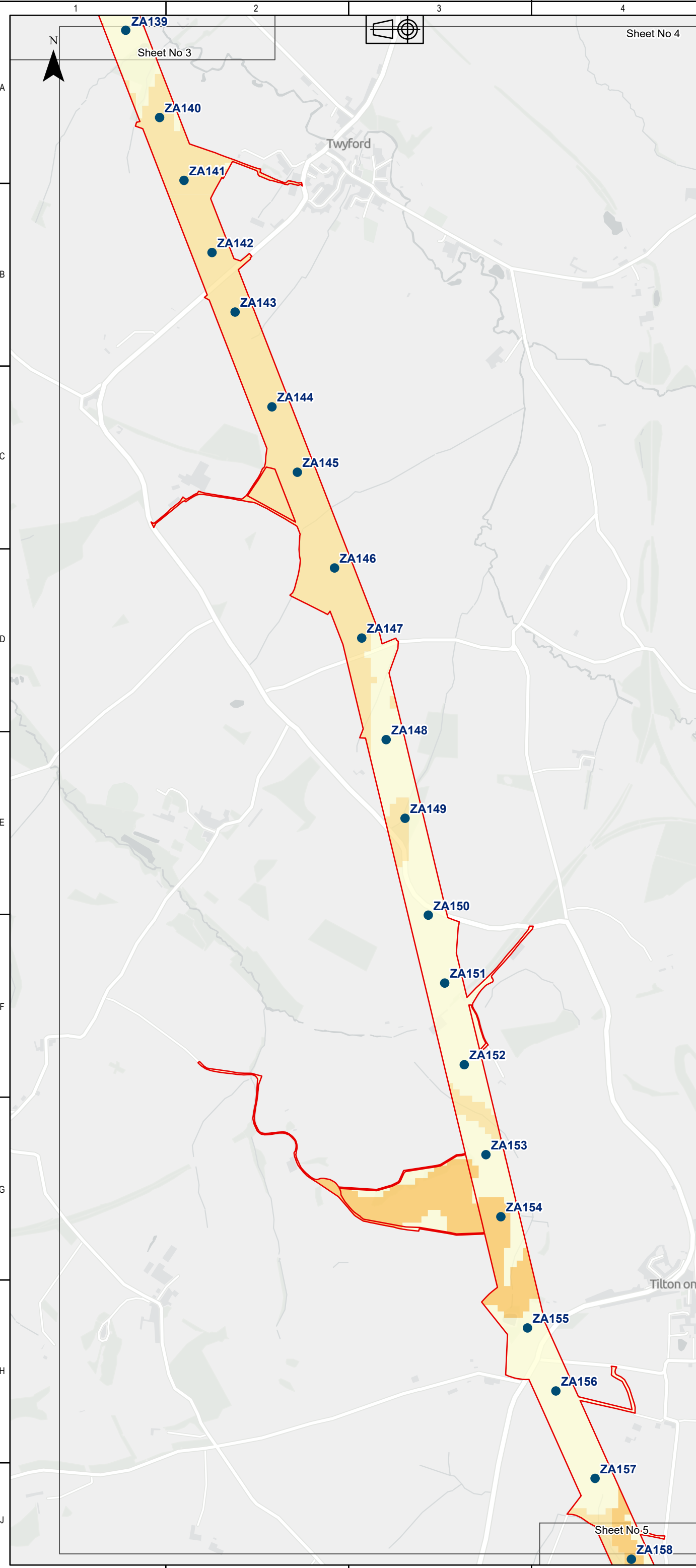
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-3
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 3 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



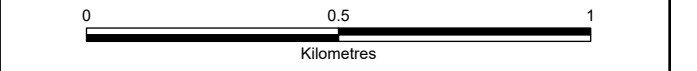
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 3% and 5%

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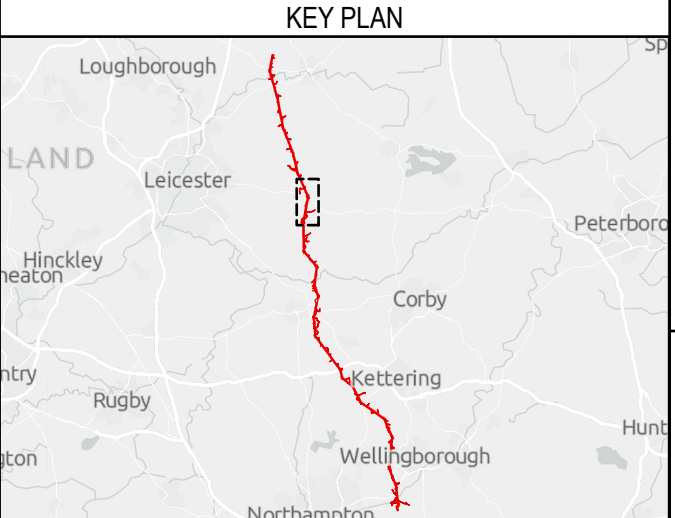
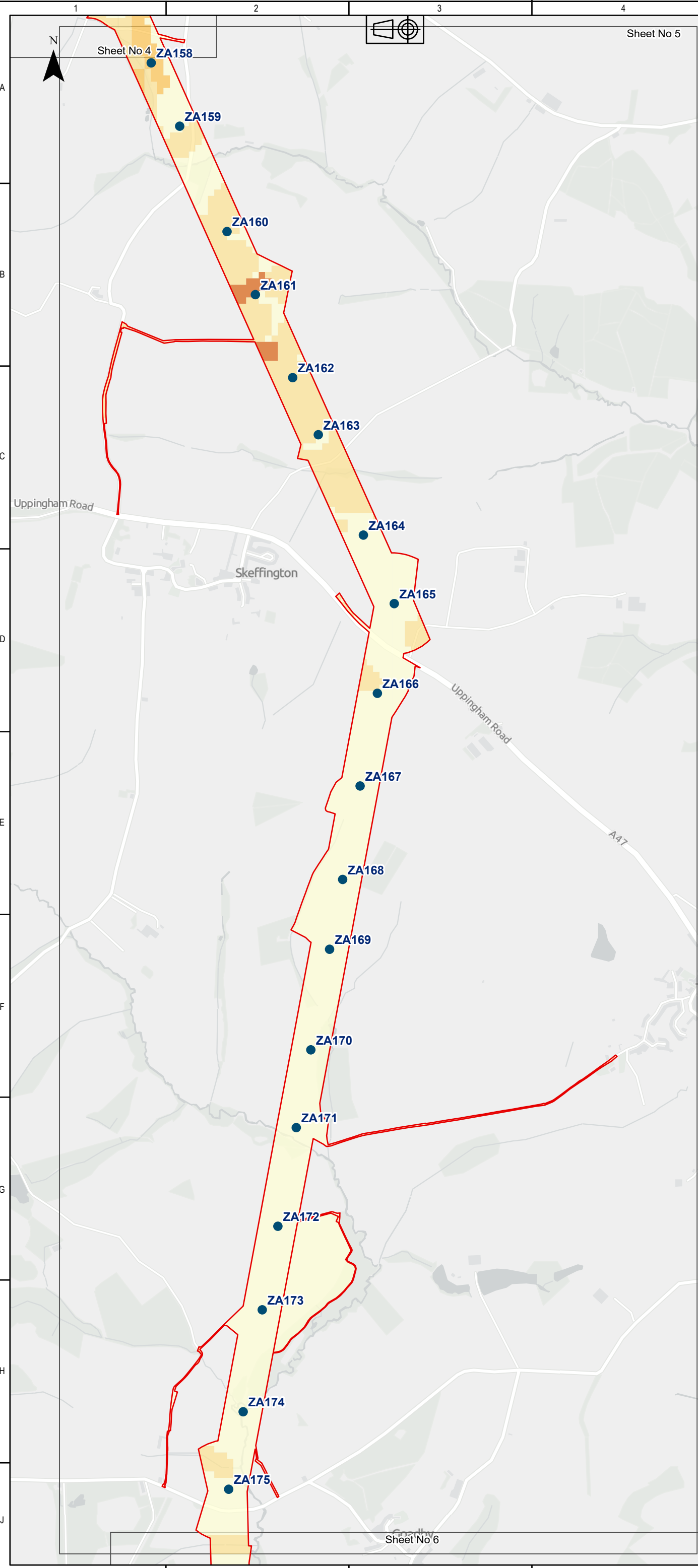
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-4
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 4 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



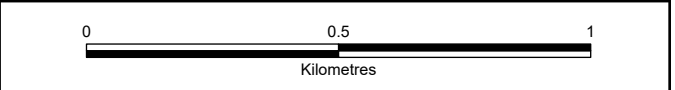
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 3% and 5%
- Between 10% and 30%

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NATIONAL GRID INVESTMENT NUMBER: 101746-203470

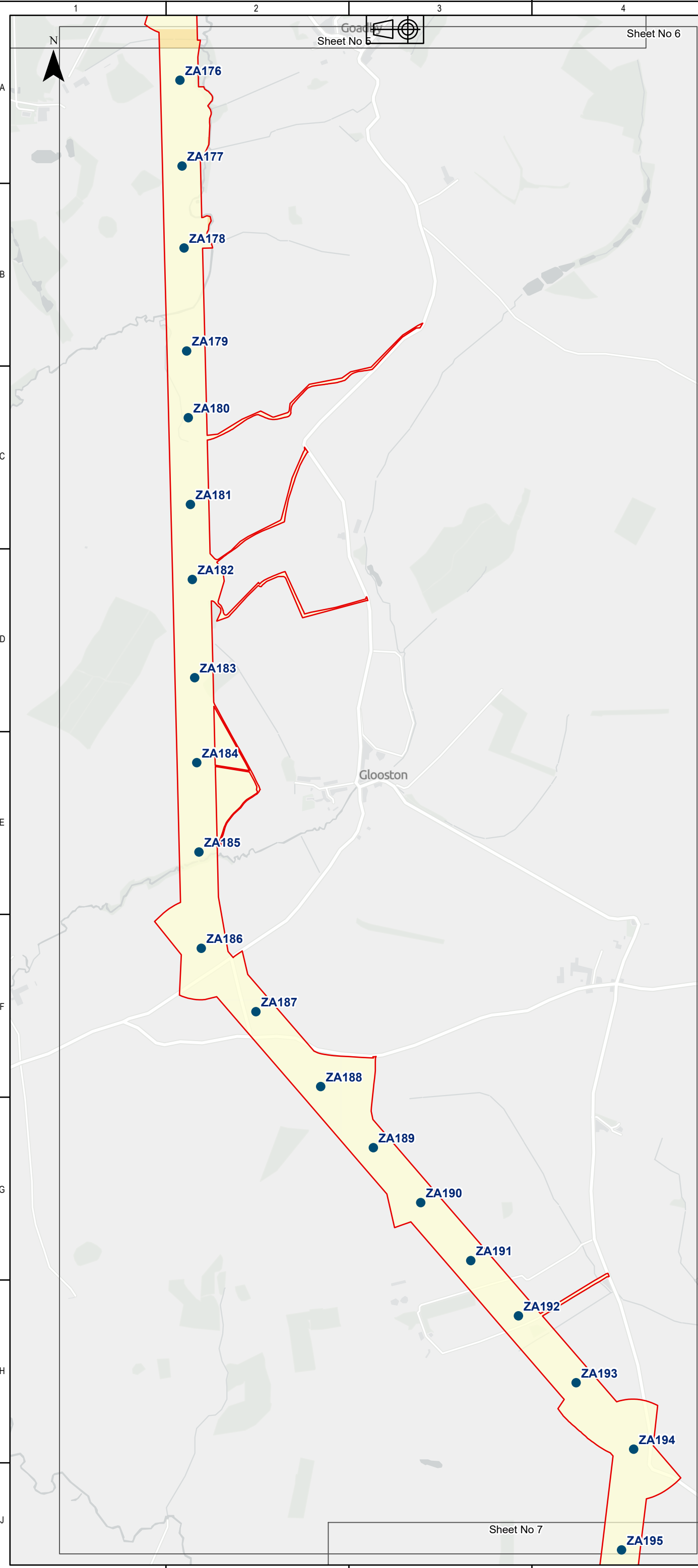
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-5
Radon Risk

Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043					Revision P03
Customer Drawing No. N/A				Sheet 5 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	



KEY PLAN

Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%

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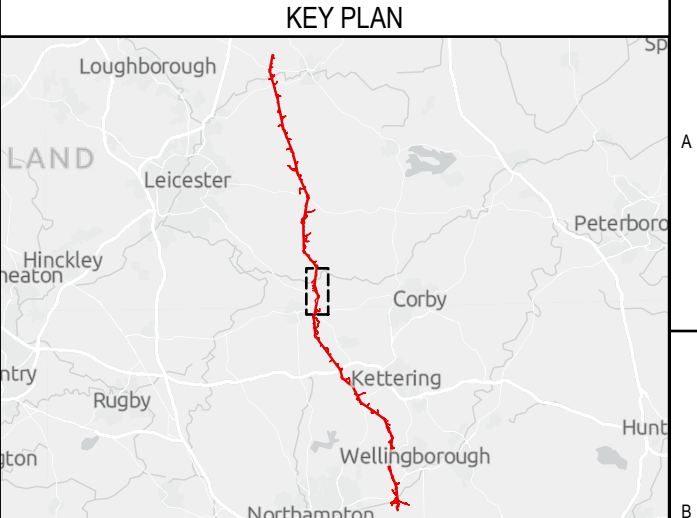
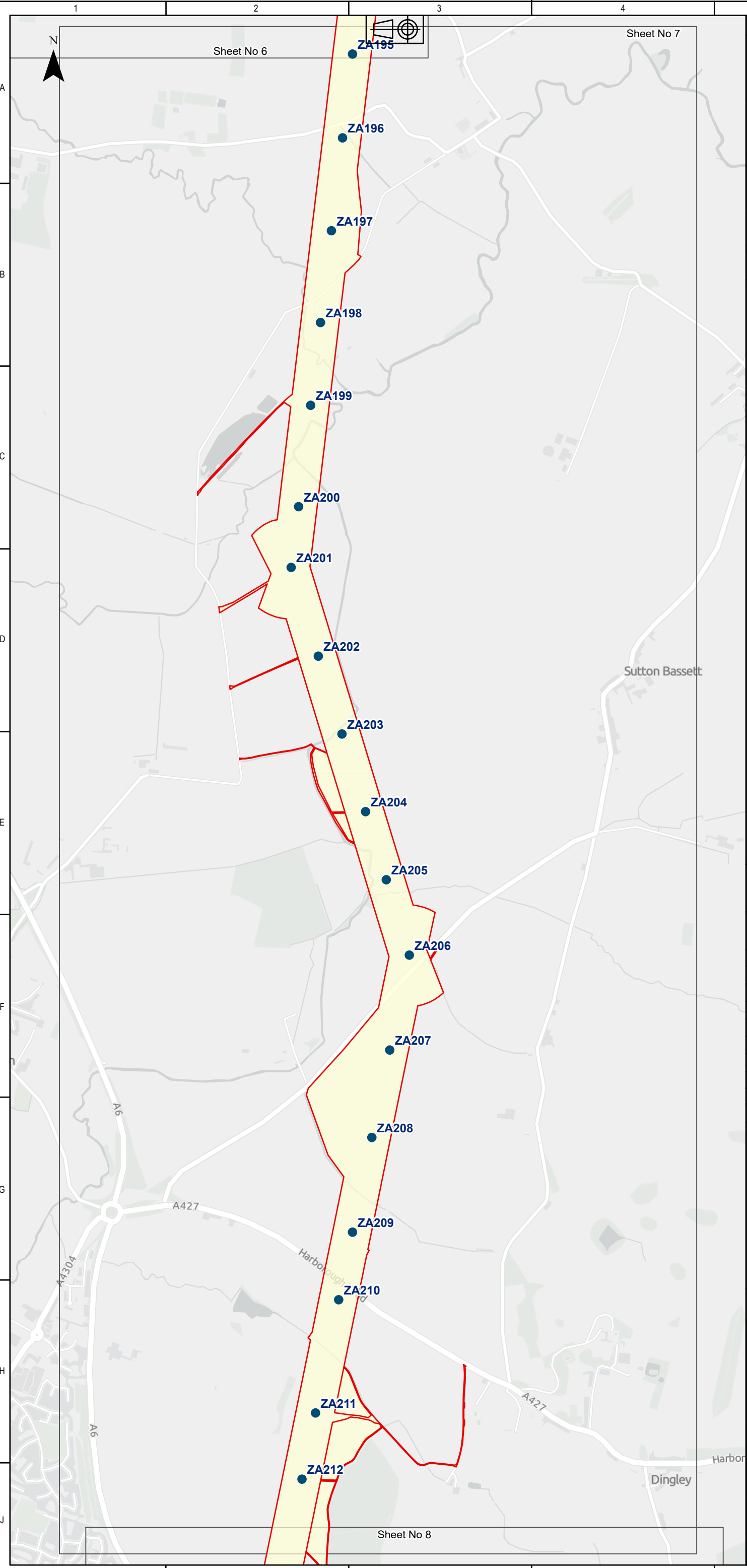
NATIONAL GRID INVESTMENT NUMBER: 101746-203470

 National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.	Contractor	

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-6
Radon Risk

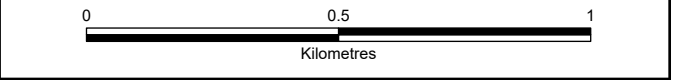
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Customer Drawing No. N/A		Sheet 6 of 14 Issue A
Drawn A.WALSH		Checked M.BLAKEY
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026
Scale 1:15,000		Size A3



Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers
- Radon Risk
- Less than 1%

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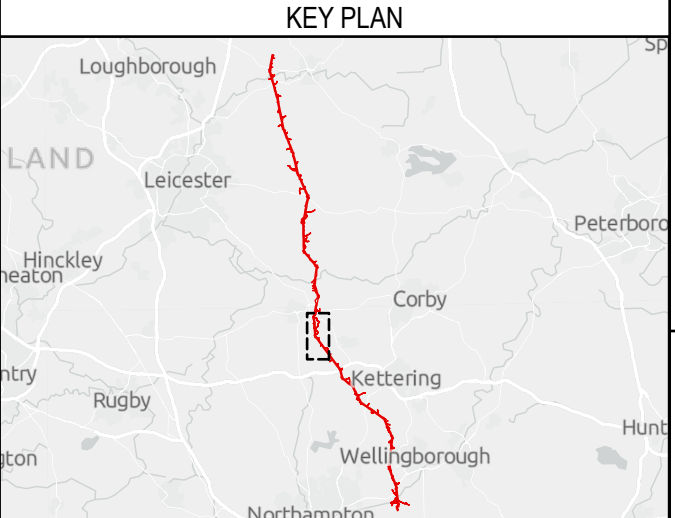
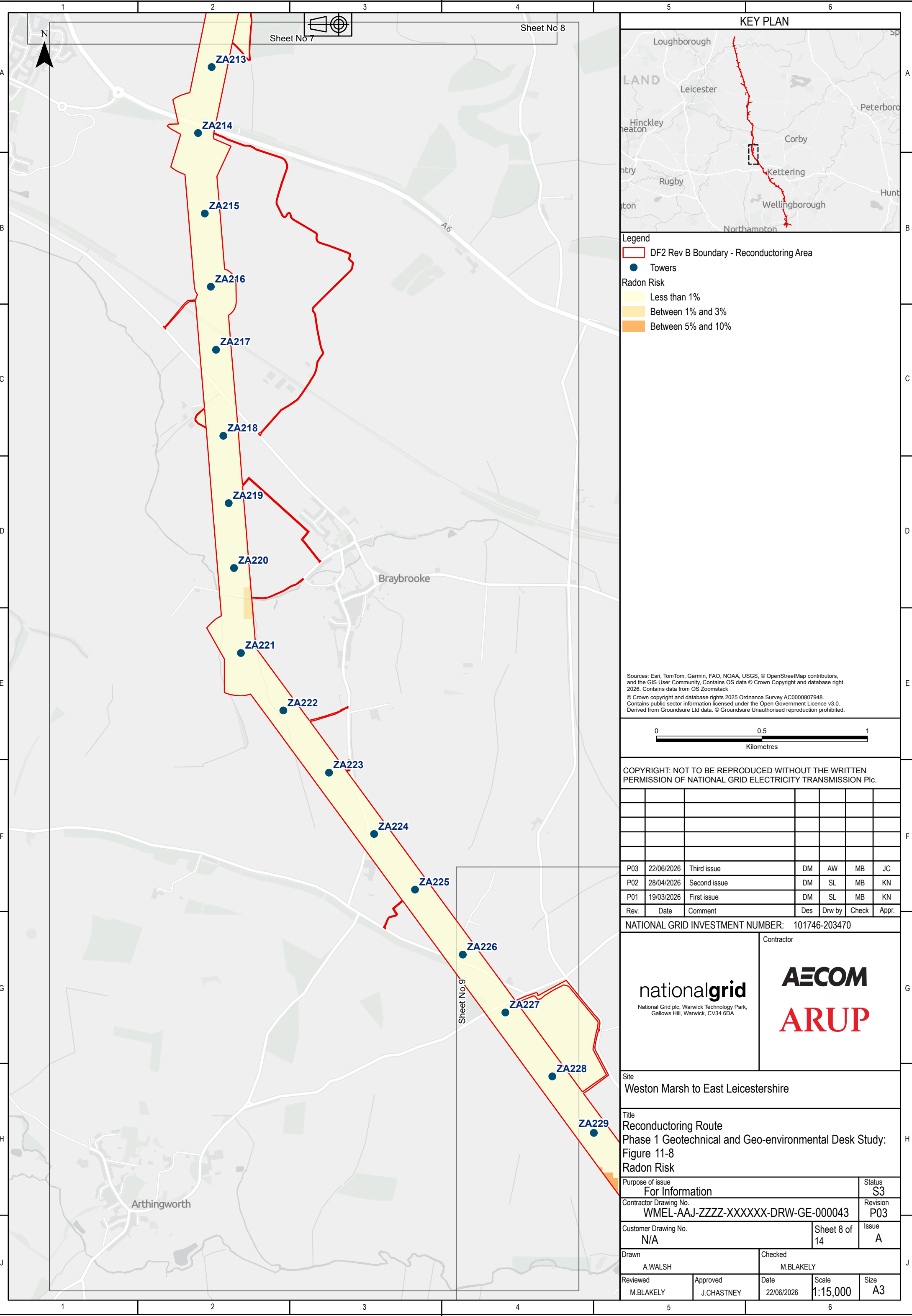
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-7
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 7 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



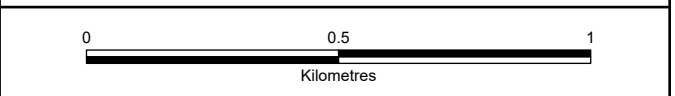
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 5% and 10%

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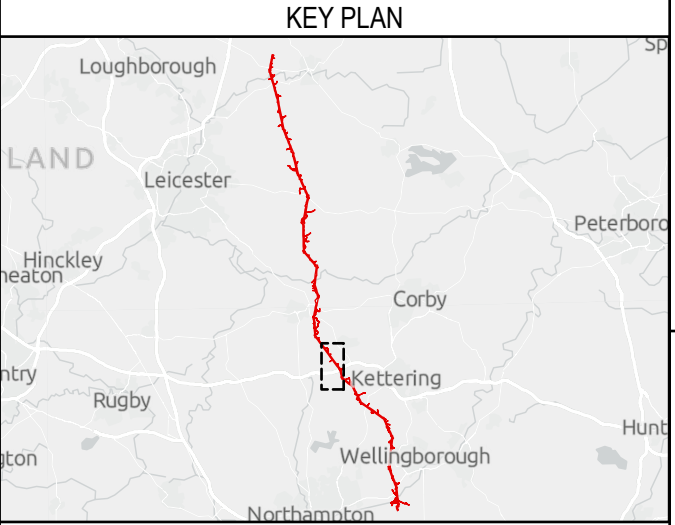
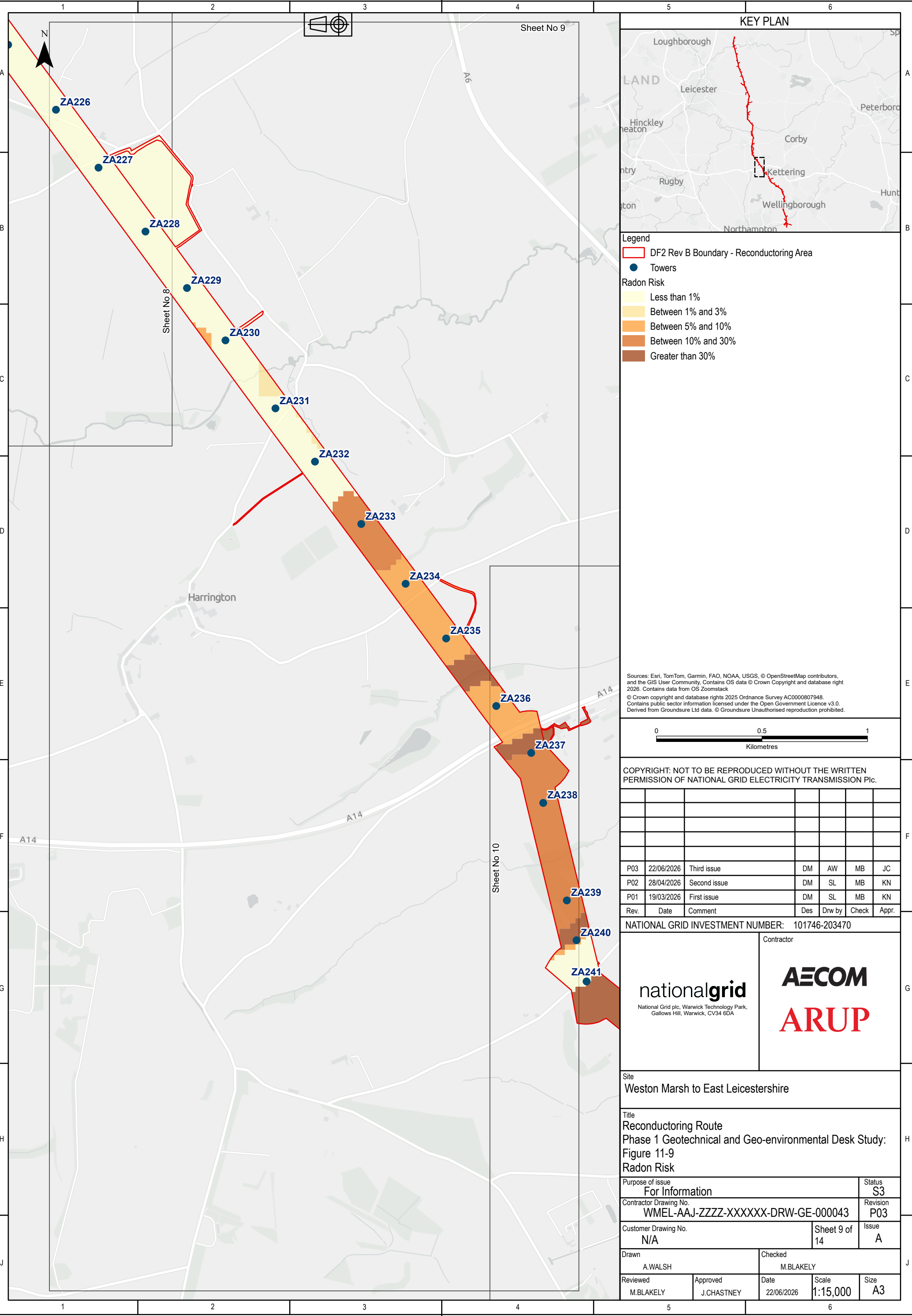
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-8
Radon Risk

Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043					Revision P03
Customer Drawing No. N/A				Sheet 8 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	



Legend

DF2 Rev B Boundary - Reconductoring Area

Towers

Radon Risk

Less than 1%

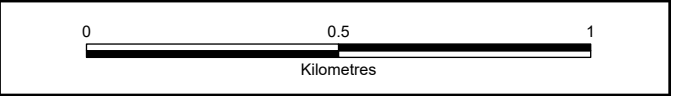
Between 1% and 3%

Between 5% and 10%

Between 10% and 30%

Greater than 30%

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nationalgrid

National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

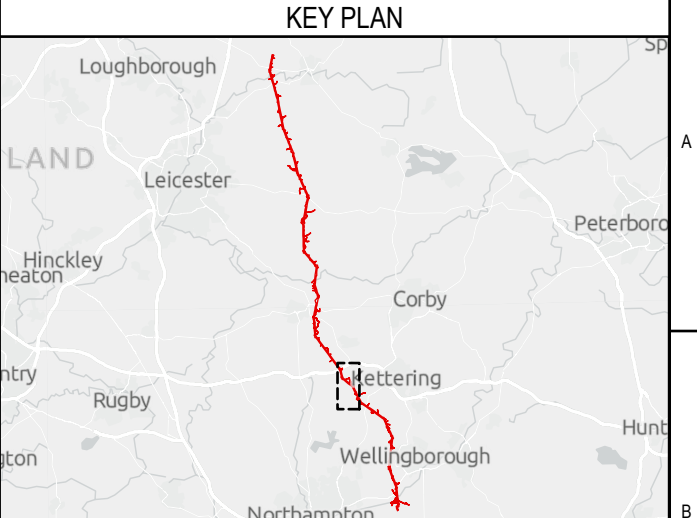
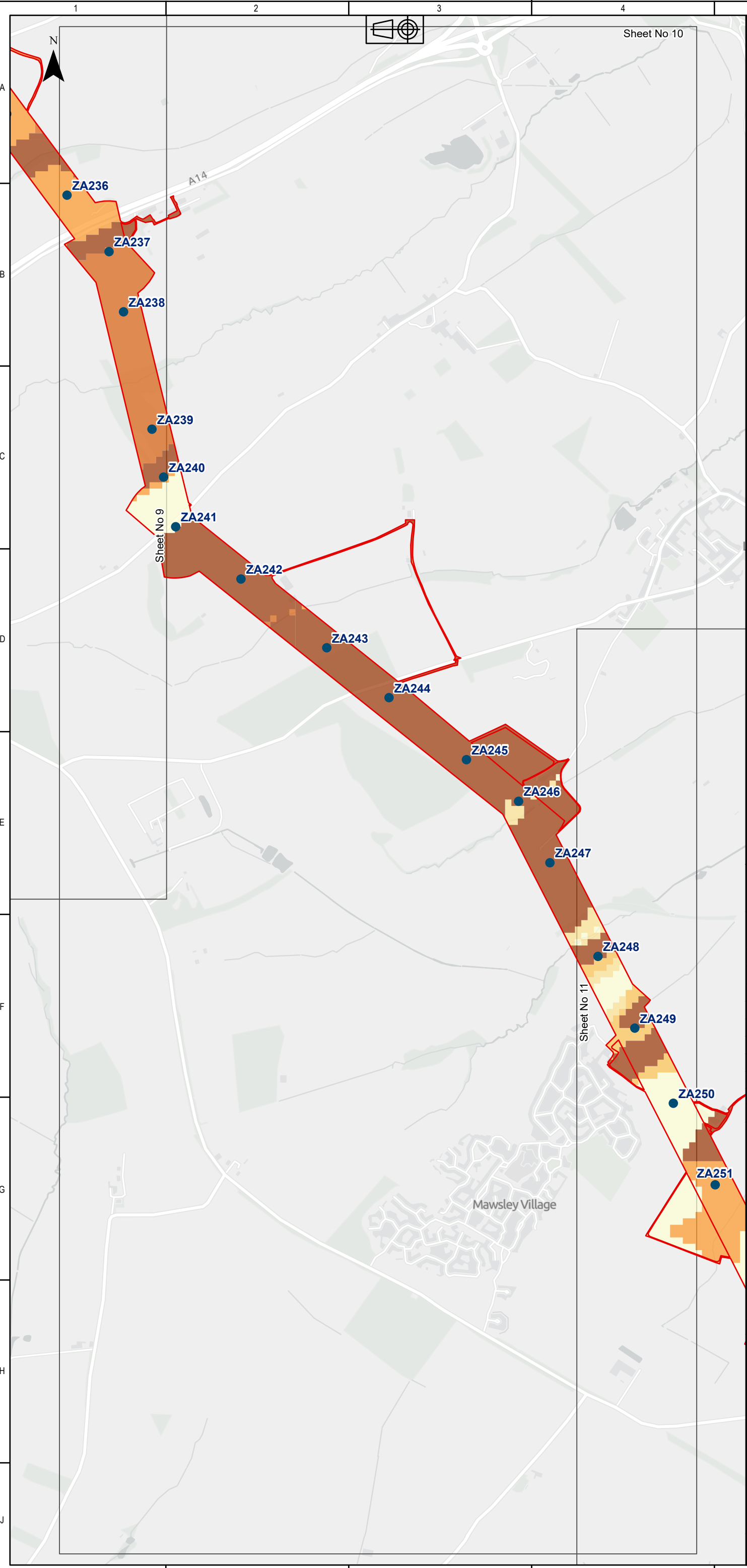
AECOM

ARUP

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-9
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 9 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



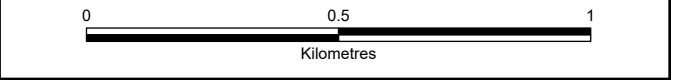
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 3% and 5%
- Between 5% and 10%
- Between 10% and 30%
- Greater than 30%

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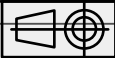
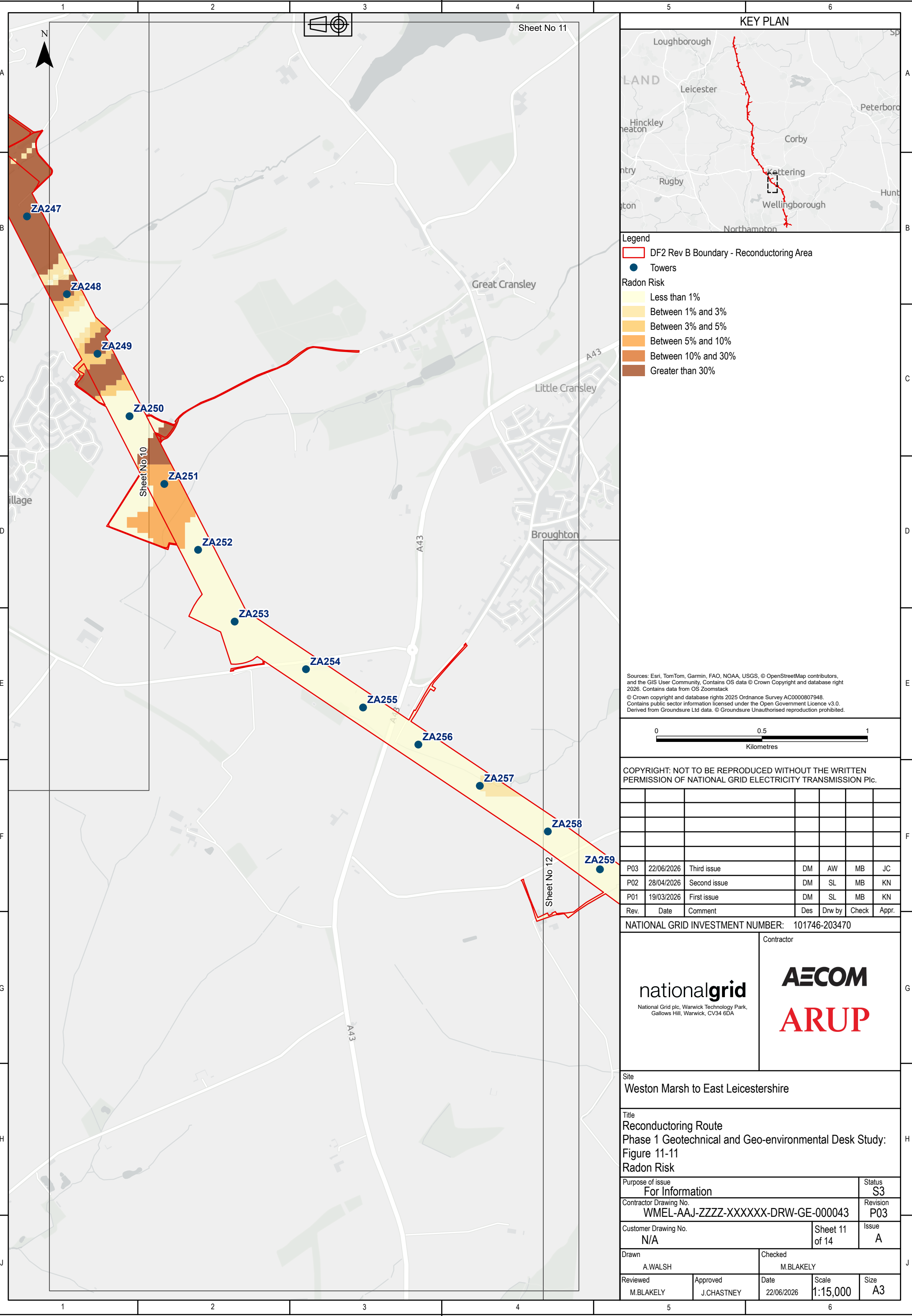
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

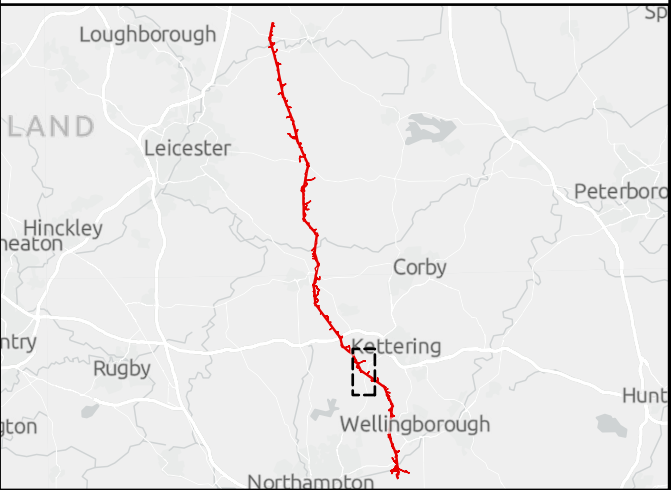
Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-10
Radon Risk

Purpose of issue For Information				Status S3
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Customer Drawing No. N/A			Sheet 10 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



Sheet No 11

KEY PLAN



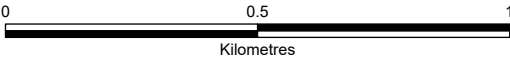
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 3% and 5%
- Between 5% and 10%
- Between 10% and 30%
- Greater than 30%

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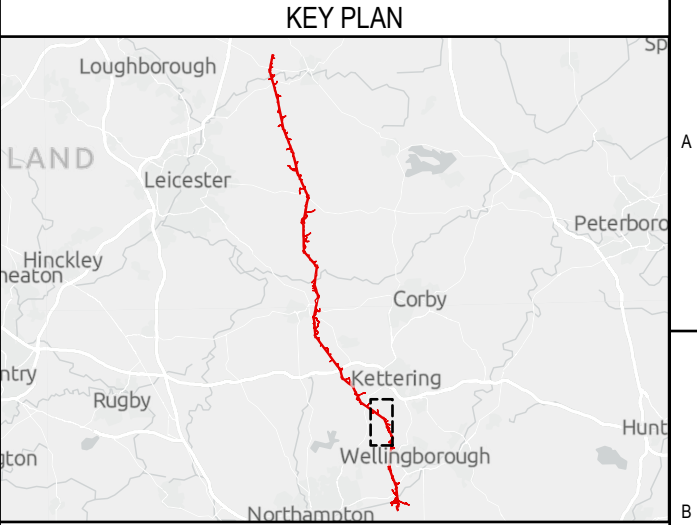
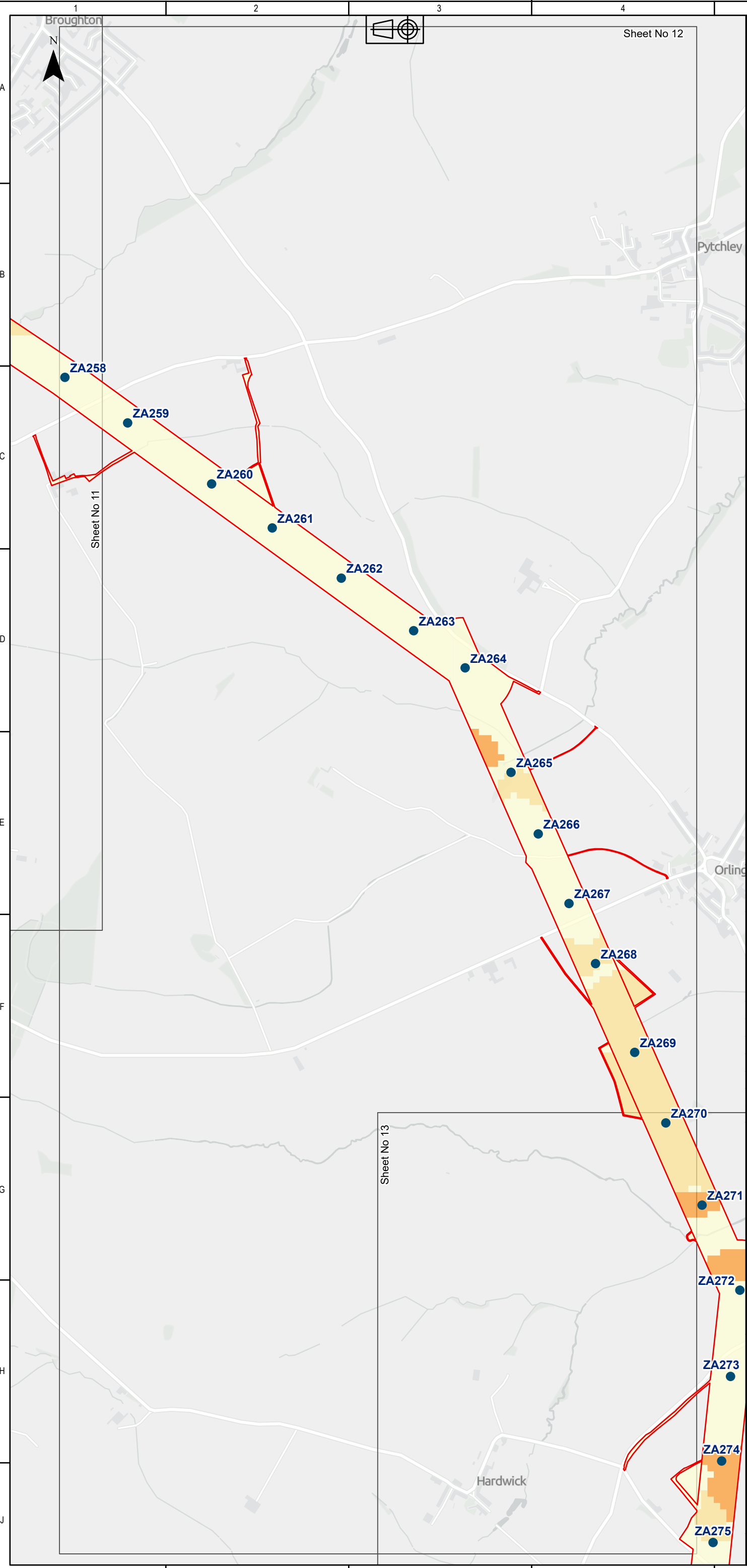
National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-11
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 11 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3



Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

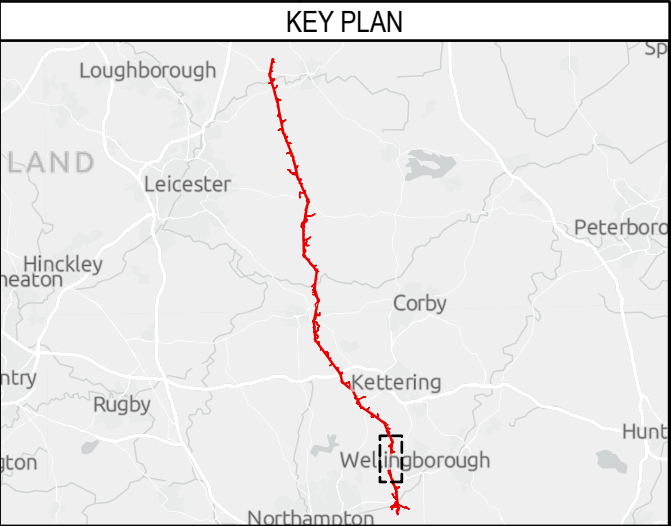
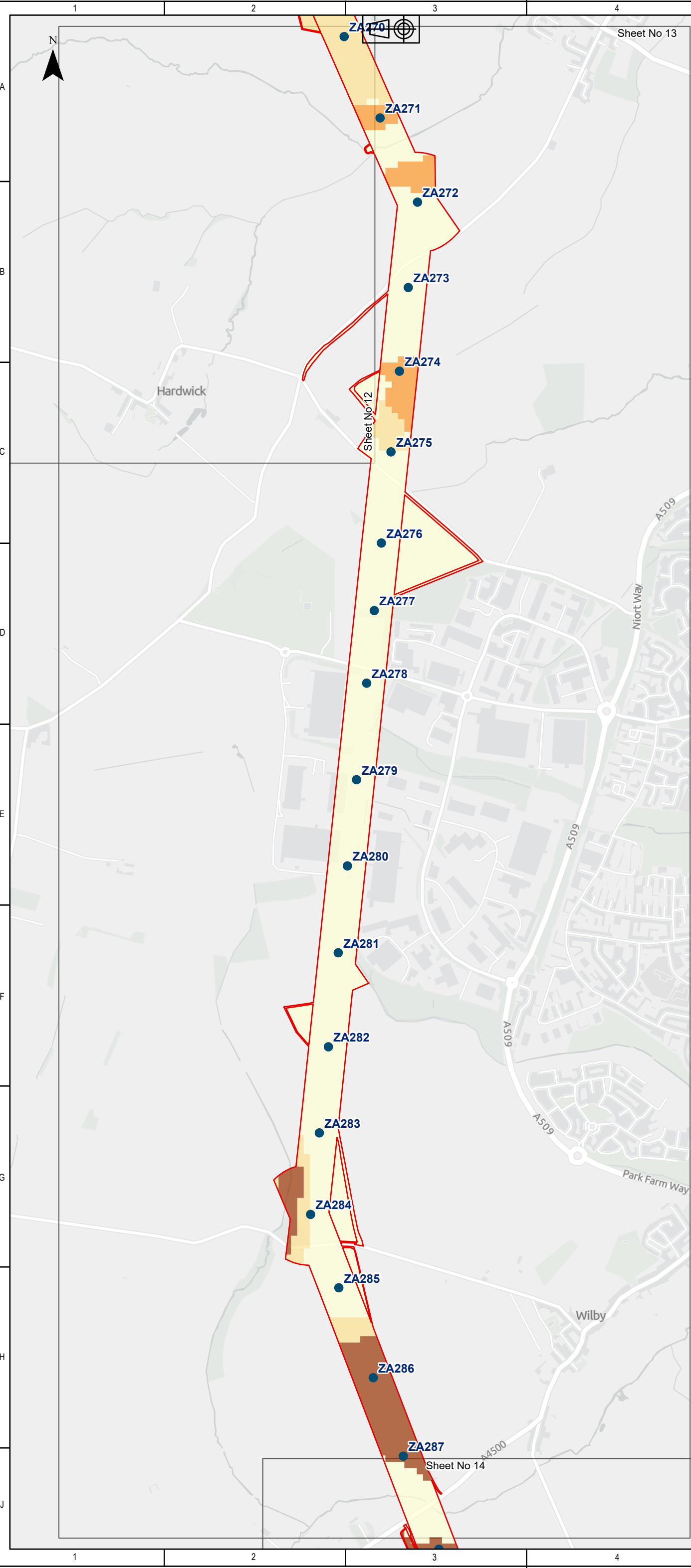
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- Between 1% and 3%
- Between 5% and 10%

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Rev.	Date	Comment	Des	Drw by	Check	Appr.	
NATIONAL GRID INVESTMENT NUMBER: 101746-203470							
nationalgrid National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA			Contractor AECOM ARUP				
Site Weston Marsh to East Leicestershire							
Title Reconductoring Route Phase 1 Geotechnical and Geo-environmental Desk Study: Figure 11-12 Radon Risk							
Purpose of issue For Information						Status S3	
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043						Revision P03	
Customer Drawing No. N/A				Sheet 12 of 14		Issue A	
Drawn A.WALSH			Checked M.BLAKEY				
Reviewed M.BLAKEY		Approved J.CHASTNEY		Date 22/06/2026		Scale 1:15,000	
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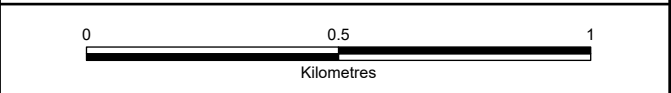
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 1% and 3%
- Between 5% and 10%
- Greater than 30%

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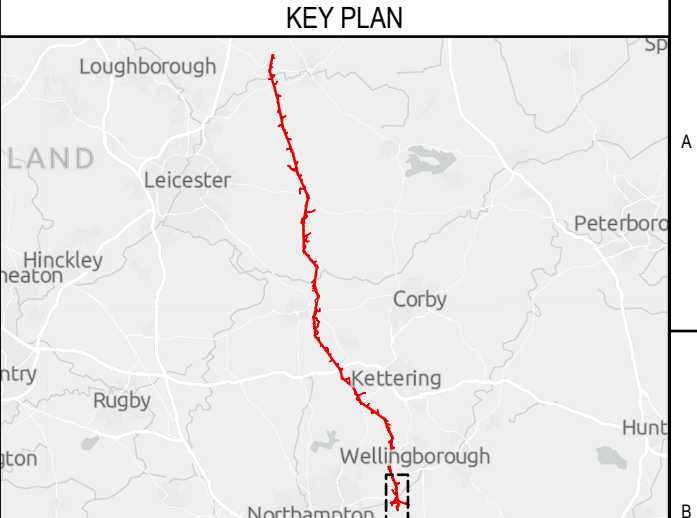
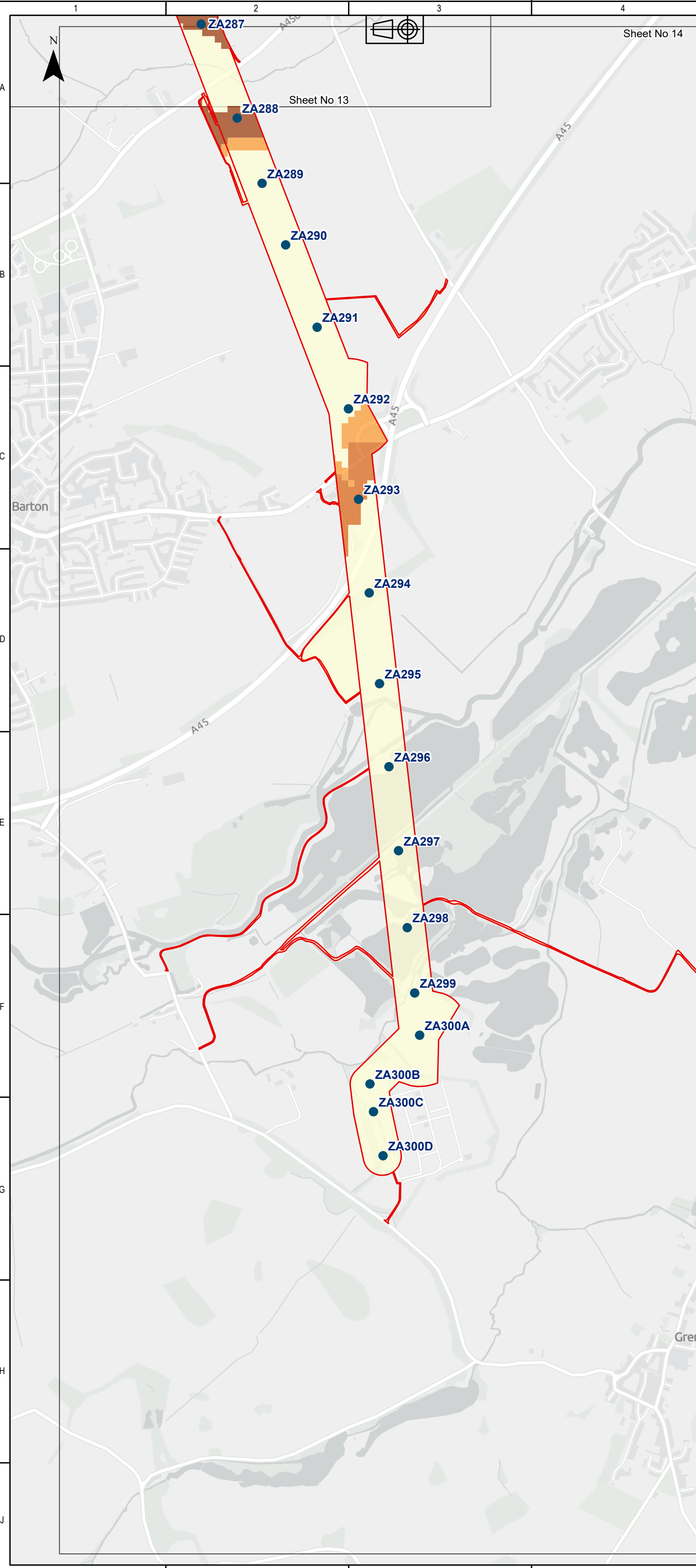
National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-13
Radon Risk

Purpose of issue For Information					Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043					Revision P03
Customer Drawing No. N/A				Sheet 13 of 14	Issue A
Drawn A.WALSH			Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3	



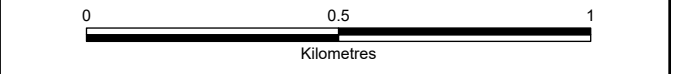
Legend

- DF2 Rev B Boundary - Reconductoring Area
- Towers

Radon Risk

- Less than 1%
- Between 5% and 10%
- Between 10% and 30%
- Greater than 30%

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Rev.	Date	Comment	Des	Drw by	Check	Appr.

NATIONAL GRID INVESTMENT NUMBER: 101746-203470

National Grid plc, Warwick Technology Park,
Gallows Hill, Warwick, CV34 6DA.

Contractor

Site
Weston Marsh to East Leicestershire

Title
Reconductoring Route
Phase 1 Geotechnical and Geo-environmental Desk Study:
Figure 11-14
Radon Risk

Purpose of issue For Information				Status S3
Contractor Drawing No. WMEL-AAJ-ZZZZ-XXXXXX-DRW-GE-000043				Revision P03
Customer Drawing No. N/A			Sheet 14 of 14	Issue A
Drawn A.WALSH		Checked M.BLAKEY		
Reviewed M.BLAKEY	Approved J.CHASTNEY	Date 22/06/2026	Scale 1:15,000	Size A3

Appendix B

Historical Development

Appendix B Historical Development and Satellite Image Screening

Table B.1 Historical Map Review

Time Period (Scale)	OHL Towers	Key Features Located at an OHL Tower	Key Features within 75m of an OHL Tower
1883 (1:10,560)	Partial mapping shows ZA292 – ZA300D.	The areas underlying the towers consist of agricultural land separated by hedgerows and trees. A Track runs through the location of ZA300A. ZA297 is located within a field labelled as 'Flood'.	The majority of the area surrounding the towers consists of agricultural fields separated by hedgerows and trees. A potential pond is located approximately 20m north of ZA294 (486745 E, 263434 N). A surface watercourse is located approximately 65m south of ZA295 with a tributary m from the south, aligned with the current course of the River Nene. A surface watercourse is located approximately 60m north of ZA296 with an associated lock, aligned with the current course of a canalised section of the River Nene. A surface watercourse is located approximately 20m north of ZA299, approximately aligned with the current course of a stream. A railway track is orientated northeast to southwest approximately 10m north of ZA297 and a signal post is labelled.
1884 (1:10:560 and 1:2,500)	1:10,560 partial mapping shows ZA105 – ZA182 and ZA223 – ZA281. 1:2,500 partial mapping shows ZA105 – ZA128.	The areas underlying the towers consist of agricultural land separated by hedgerows and trees. ZA277 is located within a woodland area.	The majority of the area surrounding the towers comprises agricultural fields separated by hedgerows and trees. Various footpaths, roads and tracks and rivers/streams intersect the Site. Surface watercourses are located approximately: - 4m northwest of ZA106, approximately aligned with the current course of a stream. - 20m south of ZA115 with associated oxbow lake.

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- 25m north of ZA123, approximately aligned with the current course of the River Wreake.
 - 50m south of ZA135, approximately aligned with the current course of a stream.
 - 20m south of ZA138, approximately aligned with the current course of Gaddesby Brook.
 - 35m south of ZA171 with an associated footbridge, approximately aligned with the current course of Stonton Brook.
 - Meandering around ZA174, 6m east at the closest point, approximately aligned with the current course of Stonton Brook.
 - 70m south of ZA246, approximately aligned with the current course of a stream.
 - 60m north of ZA248.
 - Potential drainage ditch flowing southeast 55m south of ZA256, approximately aligned with a current field boundary drain.
 - 30m north of ZA265.

A tunnel (460141 E, 320629 N) and a railway track are located approximately 20m north of ZA109.

Ponds are located approximately:

- 50m south of ZA109 (470184 E, 320480 N).
- 2no. ponds 70m west of ZA113 (469845 E, 319153 N).
- 30m west of ZA117 (470202 E, 318006 N).
- 35m south of ZA118, labelled as 'Chalk Pool' (470323, 317637 N).
- 70m northeast of ZA125 (471019 E, 315391 N).
- 70m south of ZA131 (471351 E, 313251 N).
- 65m south of ZA144 (472624 E, 309095 N).
- 55m north of ZA145 (472707 E, 308963 N).
- 45m southeast of ZA150 (473290 E, 307134 N).

			- 65m east of ZA156 (473814 E, 305322 N). - 55m northwest of ZA167 (474853 E, 301833 N). - 60m east of ZA176 (474435 E, 298632 N). - 31m northeast of ZA274 (486088 E, 269986 N). - 25m west of ZA277 (485919 E, 269020 N). - 25m east of ZA281 (485843 E, 267653 N).
1885 (1:10,560 and 1:2,500)	1:10,560 partial mapping shows ZA183 – ZA212, ZA215 – ZA222 and ZA282 to ZA291. 1:2,500 partial mapping shows ZA129 – ZA143, ZA248 – ZA271 and ZA292 – ZA300D.	The areas underlying the towers consist of agricultural land separated by hedgerows and trees. ZA200, ZA201 and ZA202 are mapped within an area 'Liable to Flood'.	The majority of the area surrounding the towers comprises agricultural fields separated by hedgerows and trees. Various footpaths, roads and tracks and rivers/streams intersect the Site. Surface watercourses are located approximately: - 40m south of ZA185, approximately aligned with the current course of a stream. - 55m west of ZA198 / 50m east of ZA199 with the old course of the river shown meandering, approximately aligned with the current course of the River Welland. - 20m north of ZA203 with the old course of the river shown meandering north of ZA203, approximately aligned with the current course of the River Welland. - 50m west of ZA205, approximately aligned with the current course of the River Welland. - 55m south of ZA205, approximately aligned with the current course of a stream. Railway features: A railway line is located approximately 60m north of ZA199 orientated northeast to southwest. Ponds are located approximately: - 70m south of ZA184 (474435 E, 295863 N). - Adjacent to ZA210 (476052 E, 287928 N). - 75m northwest of ZA215 (475755 E, 286196 N). - 65m southeast of ZA220 (475949 E, 284383 N).

			- 30m west of ZA222 (476121 E, 283762 N).
1886 (1:2,500)	Partial mapping shows ZA144 – ZA247 and ZA272 – ZA291.	No significant changes observed.	No significant changes observed.
1899 (1:10,560)	Partial mapping shows ZA223 – ZA247 and ZA259 – ZA291.	No significant changes observed.	Various areas of furze / rough pasture are located from approximately 20m south of ZA239. Ground workings located approximately 60m north of ZA246 (480878 E, 277452 N). A building is located 50m north of ZA247 (480991 E, 277214 N). An unlabelled rectangular feature is located approximately 70m south of ZA260.
1900 (1:2,500)	Partial mapping shows towers ZA199 – ZA300D.	ZA255 is located within an area of allotments.	The pond 75m northwest of ZA215 is no longer present. A railway line in cuttings is located approximately 50m northeast of ZA247, orientated northwest-southeast, which extends into the area between the access corridors. An area of potential worked ground is present 75m southeast of ZA249.
1901 (1:10,560)	Partial mapping shows towers ZA195 – ZA222, ZA248 – ZA258, ZA292 – ZA300D.	No significant changes observed.	No significant changes observed.
1902 (1:10,560)	Partial mapping shows towers ZA115 – ZA203.	No significant changes observed.	A pond is located approximately 25m west of ZA191 (475483 E, 293972 N).
1903 (1:2,500)	Partial mapping shows towers ZA105	No significant changes observed.	The pond approximately 50m south of ZA109 is no longer present.

	– ZA128, ZA134 – ZA138, ZA149 – ZA153.		
1904 (1:10,560 and 1:2,500)	1:10,560 partial mapping shows towers ZA105 – ZA114. 1:2,500 partial mapping shows towers ZA129 – ZA133, ZA139 – ZA148, ZA154 – ZA198.	A label for Newfoundland Farm is present at ZA114; no farm buildings are visible within the search area.	A sheepfold is located approximately 30m south of ZA160 (474350 E, 303920 N).
1923 (1:10,560)	Partial mapping shows towers ZA282 – ZA291.	No significant changes observed.	No significant changes observed.
1924 (1:10,560)	Partial mapping shows towers ZA204 – ZA234, ZA259 and ZA272 – ZA281.	No significant changes observed.	The pond adjacent to ZA210 is no longer present.
1925 (1:2,500)	Partial mapping shows towers ZA272 – ZA291.	No significant changes observed.	No significant changes observed.
1926 (1:2,500)	Partial mapping shows towers ZA204 – ZA247 and ZA260 – ZA271.	ZA239 and ZA242 are mapped within areas of rough grassland.	The ground workings approximately 60m north of ZA246 have been developed as a railway siding. A hydraulic ram is mapped approximately 70m north of ZA265 (485186 E, 272736 N). Potential ground workings are mapped approximately 75m south of ZA266 (485378 E, 272371 N).
1927 (1:10,560)	Partial mapping shows towers ZA223	No significant changes observed.	Rises are mapped approximately 70m north of ZA269 (485716 E, 271650 N).

	– ZA247 and ZA260 – ZA271.		
1928 (1:10,560 and 1:2,500)	1:10,560 partial mapping shows towers ZA155 – ZA163 and ZA183 – ZA203. 1:2,500 partial mapping shows tower ZA194.	No significant changes observed.	A drainage ditch approximately 55m west of ZA158 is shown to flow south. The sheepfold approximately 30m south of ZA160 is no longer present. Additional tracks extend from the existing railway approximately 50m north of ZA199, which is now labelled 'Midland'.
1929 and 1930 (1:2,500)	1:2,500 partial mapping shows towers ZA183 – ZA203 (1929) and ZA155 – ZA163 (1930).	No significant changes observed.	No significant changes observed.
1938 (1:10,560)	Partial mapping shows towers ZA204 – ZA222, ZA259 and ZA272 – ZA291 (1938).	No significant changes observed.	No significant changes observed.
1950 (1:10,560)	All towers.	No significant changes observed.	Newfoundland Farm is relabelled as 'The Lodge' approximately 65m west of ZA114. The label for a possible pumping station is mapped approximately 70m southeast of ZA205; the pumping station structure itself is not shown within the search area. Areas of sand and gravel workings are located adjacent to the north of ZA243 (480052 E, 278053 N) and approximately 65m northwest of ZA244 (480278 E, 277881 N).

			Electricity tower and overhead line located approximately 50m west of ZA264 (484997 E, 273120 N). A covered pumping station is mapped approximately 35m south of ZA265 (485229 E, 272637 N).
1959 (1:2,500)	Partial mapping shows towers ZA142 – ZA144.	Electricity pylons are present at the locations of ZA142 – ZA144.	A possible pond is located approximately 5m west of ZA143 (472477 E, 309535 N).
1960 (1:2,500)	Partial mapping shows towers ZA145 – ZA177 and ZA211 – ZA212.	Electricity pylons are present at the locations of all towers within mapping extent.	No significant changes observed.
1961 (1:2,500)	Partial mapping shows towers ZA178 – ZA206 and ZA213 – ZA221.	Electricity pylons are present at the locations of all towers within mapping extent.	Issues are labelled approximately 35m north and 50m northeast of ZA185 (474447 E, 295620 N and 474478 E, 295617 N) and a ford is present approximately 35m south 474437 E, 295543 N). A spring is mapped approximately 65m southwest of ZA194 (476114 E, 293177 N). The river running approximately 55m west of ZA198 / 50m east of ZA199 and 50m west of ZA205 is labelled as the River Welland. A 'Works' has been constructed with infrastructure approximately 40m south of ZA220 (475893 E, 284380 N and 475910 E, 284364 N).
1966 (1:2,500)	Partial mapping shows towers ZA236 – ZA242.	Electricity pylons are present at the locations of ZA236 to ZA242.	No significant changes observed.
1968 (1:2,500)	Partial mapping shows towers ZA105 – ZA111 and ZA115 – ZA126.	Electricity pylons are present at the locations of all towers within mapping extent.	Ground workings are present approximately 55m northeast of ZA118 (470368 E, 317727 N).

1969 (1:10,000 and 1:2,500)	1:10,560 partial mapping shows towers ZA105 – ZA110. 1:2,500 partial mapping shows towers ZA276 – ZA282.	Electricity pylons are present at the locations of all towers within mapping extent.	No significant changes observed.
1970 (1:2,500)	Partial mapping shows towers ZA207 – ZA210, ZA222 – ZA235, ZA268 – ZA275 and ZA283 – ZA300D.	Electricity pylons are present at the locations of all towers within mapping extent.	A sand pit is located approximately 60m southwest of ZA284 (485652 E, 266524 N). Three ponds are located approximately 25m northeast of ZA294 (486748 E, 263438 N). The railway approximately 10m north of ZA297 is labelled as 'dismantled'. Towers ZA300C and ZA300D are shown to link to gantries both approximately 50m east of each respective tower and likely link to an electricity substation not shown within the mapping extent.
1971 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA204 – ZA235. 1:2,500 partial mapping shows towers ZA210 – ZA212.	Electricity pylons are present at the locations of all towers within mapping extent.	The pond approximately 65m southeast of ZA220 is no longer present.
1972 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA290 – ZA300D. 1:2,500 partial mapping shows towers ZA112 –	Electricity pylons are present at the locations of all towers within mapping extent.	The sand and gravel workings around ZA243 and ZA244 are no longer present. The area of potential worked ground 75m southeast of ZA249 is no longer present. A pond is labelled approximately 35m east of ZA259 (483762 E, 274065 N).

	ZA113 and ZA243 – ZA267.		The unlabelled rectangular feature approximately 70m south of ZA260 is labelled as a pond. The covered pumping station is mapped approximately 35m south of ZA265 is no longer labelled, however the structure is still present. The hydraulic ram approximately 70m north of ZA265 is relabelled as a reservoir (covered and disused). The potential ground workings approximately 75m south of ZA266 are labelled as a disused quarry. Between ZA290 and ZA300A, an additional OHL and electricity towers are mapped running parallel to the reconductoring OHL, from approximately 50m east. A potential sand pit is located adjacent to the south of ZA296, extending south to approximately 65m north of ZA297 (centred on 486830 E, 262584 N). The pond approximately 20m north of ZA294 is no longer present. A possible mound is located between towers ZA300C and ZA300D (centred on 486761 E, 261270 N). The infrastructure approximately 50m east of ZA300C and ZA300D is labelled as an electricity substation.
1973 (1:2,500)	Partial mapping shows towers ZA112 – ZA114, ZA126 – ZA131 and ZA135 – ZA138.	Electricity pylons are present at the locations of all towers within mapping extent.	A potential mound is located approximately 60m northwest of ZA114 (469920 E, 318911 N). The stream approximately 20m south of ZA138 is labelled as Gaddesby Brook.
1974 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA243 – ZA254. 1:2,500 partial mapping shows towers ZA132 –	Electricity pylons are present at the locations of all towers within mapping extent.	The railway line in cuttings approximately 50m northeast of ZA247 is no longer present.

	ZA134, ZA139 – ZA141 and ZA213 – ZA215.		
1975 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA254 – ZA274. 1:2,500 partial mapping shows towers ZA111 and ZA278 – ZA286.	Electricity pylons are present at the locations of all towers within mapping extent.	Between ZA268 and ZA274, an additional OHL and electricity pylons are mapped running parallel to the reconductoring OHL, approximately 55m east.
1976 (1:2,500)	Partial mapping shows towers ZA112 – ZA114 and ZA211 to ZA212.	Electricity pylons are present at the locations of all towers within mapping extent.	No significant changes observed.
1977 (1:10,000)	Partial mapping shows towers ZA112 – ZA114 and ZA274 – ZA289.	Electricity pylons are present at the locations of all towers within mapping extent.	Between ZA274 and ZA289, an additional OHL and electricity pylons are mapped running parallel to the reconductoring OHL, approximately 55m east.
1978 (1:2,500)	Partial mapping shows towers ZA114 – ZA117, ZA216 – ZA218 and ZA293 – ZA295.	Electricity pylons are present at the locations of all towers within mapping extent.	Three silos are mapped approximately 60m west of ZA293 at Glebe Farm (486627 E, 263781 N).
1979 (1:10,000)	Partial mapping shows towers ZA126 – ZA141.	Electricity pylons are present at the locations of all towers within mapping extent.	The pond approximately 70m south of ZA131 is no longer present.
1981 (1:2,500)	Partial mapping shows towers ZA289 – ZA292.	Electricity pylons are present at the locations of all towers within mapping extent.	An unlabelled circular structure is located approximately 65m southeast of ZA292 (centred on 486740 E, 264025 N).

1982 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA142 – ZA156 and ZA274 – ZA289. 1:2,500 partial mapping shows towers ZA293 – ZA295.	Electricity pylons are present at the locations of all towers within mapping extent.	The ponds approximately 45m southeast of ZA150 and 65m east of ZA156 are no longer present. A spring is mapped approximately 50m east of ZA154 (473580 E, 305991 N). A new road in a cutting has been developed from approximately 55m southeast of ZA293; the circular structure approximately 65m southeast of ZA292 forms part of the new road. The three ponds approximately 25m northeast of ZA294 are no longer present.
1983 (1:10,000)	Partial mapping shows towers ZA111 and ZA115 – ZA126.	Electricity pylons are present at the locations of all towers within mapping extent.	The pond approximately 70m northeast of ZA125 is no longer present.
1984 (1:2,500)	Partial mapping shows towers ZA111 and ZA296 – ZA300D.	No significant changes observed.	Several large bodies of water are located approximately 10m to the south of ZA297 and surrounding ZA298, being approximately 15m south and west. An embankment has been constructed leading from the existing wall approximately 95m north of ZA300B which extends to the south and is directly adjacent to ZA300B, approximately 15m east of ZA300C and 25m east of ZA300D.
1985 (1:2,500)	Partial mapping shows towers ZA293 – ZA295.	No significant changes observed.	Two additional silos are mapped approximately 60m west of ZA293 at Glebe Farm.
1986 (1:2,500)	Partial mapping shows towers ZA151 – ZA153, ZA254 – ZA256 and ZA274 – ZA275.	No significant changes observed.	No significant changes observed.

1987 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows tower ZA111. 1:2,500 partial mapping shows towers ZA114, ZA164 – ZA166, ZA211 – ZA212 and ZA277 – ZA280.	No significant changes observed.	No significant changes observed.
1988 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA290 – ZA295. 1:2,500 partial mapping shows towers ZA296 – ZA300D.	No significant changes observed.	No significant changes observed.
1989 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA254 – ZA263 and ZA274 – ZA289. 1:2,500 partial mapping shows towers ZA139 – ZA141, ZA173 – ZA180, ZA184 – ZA186, ZA195 – ZA202, ZA265 – ZA267 and ZA198 – ZA200.	No significant changes observed.	The ford approximately 35m south of ZA185 is no longer present. The railway line approximately 60m north of ZA199 appears to have been dismantled. The disused quarry 75m south of ZA266 is no longer present.
1990 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows	No significant changes observed.	No significant changes observed.

	towers ZA264 – ZA275. 1:2,500 partial mapping shows towers ZA115 – ZA117, ZA157, ZA268 – ZA270 and ZA274 – ZA275.		
1991 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA173 – ZA186. 1:2,500 partial mapping shows towers ZA108 – ZA110 and ZA114.	No significant changes observed.	No significant changes observed.
1992 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA111, ZA114 – ZA126, ZA187 – ZA203 and ZA274 – ZA289. 1:2,500 partial mapping shows towers ZA154 – ZA156 and ZA165.	No significant changes observed.	The ground workings approximately 55m northeast of ZA118 are no longer present. The pond approximately 25m west of ZA191 is no longer present.
1993 (1:2,500)	Partial mapping shows towers ZA105 – ZA111, ZA114 – ZA125 and ZA204 – ZA300D.	No significant changes observed.	The railway approximately 60m north of ZA246 and 50m northeast / 135m south of ZA247 is labelled as 'dismantled'. A marsh is labelled from approximately 70m northwest of ZA248. The sand pit approximately 60m southwest of ZA284 is labelled as 'disused'.

1994 (1:10,000 and 1:2,500)	1:10,000 partial mapping shows towers ZA204 – ZA218. 1:2,500 partial mapping shows ZA111 – ZA117 and ZA120 – ZA203.	No significant changes observed.	No significant changes observed.
1995 (1:2,500)	Partial mapping shows towers ZA142 – ZA150, ZA170 – ZA172 and ZA280 – ZA282.	Issues are labelled at the location of ZA149.	The pond approximately 65m south of ZA144 is no longer present. Issues are labelled approximately 65m southwest of ZA149 (473117 E, 307494 N).

Table B.2 Satellite Image Screening

Time Period	Feature (Feature Coordinates) (Nearest Existing OHL Tower)
1945 - 1985 (Google Earth Imagery) (Intermittent Coverage)	N/A (a)
1999 (Google Earth Imagery) (Partial Coverage)	Rectangular building present, current Google Earth labelling identifies it as a pest control business (52°39'12.46" N 0°55'04.36" W) (Approximately 120 m southwest of ZA151) Dark coloured aggregate storage (52°39'14.52" N 0°55'00.66" W) (Approximately 100 m southeast of ZA151). See Note (8) Unspecified stockpiles (52°39'14.52" N 0°55'00.66" W) (Approximately 100m southeast of ZA151). See Note (1) Agricultural Building (52°36'13.48" N 0°53'58.10" W) (Approximately 170 m northeast of ZA169) Agricultural building and unspecified storage (52°31'59.41" N 0°52'39.69" W) (Approximately 180m northeast of ZA194) Industrial Rural Development (52°31'11.17" N 0°52'55.64" W) (Approximately 110 m to north of ZA198 and 170 m south of ZA197). See Note (2)
2000 (Google Earth Imagery)	No significant additional potentially contaminative land features identified
2002 (Google Earth Imagery)	Railway (52°27'46.72" N 0°53'07.28" W) (Approximately 150 m south of ZA216 and 100 m north of ZA217). See Note (3) Two Agricultural Buildings (52°27'40.45" N 0°53'08.39" W) (Approximately 80 m southwest of ZA217)
2004 (Google Earth Imagery)	Sewage/Water Treatment Works (52°27'07.72" N 0°53'04.34" W) (Approximately 15 m southwest of ZA220) Agricultural Buildings (52°26'23.26" N 0°52'26.79" W) (Approximately 120 m southwest of ZA224 and 150 m northwest of ZA225). See Note (4)

	Agricultural buildings (52°23'45.24" N 0°49'33.39" W) (Approximately 150 m southeast of ZA242). See Note (5) Agricultural buildings (52°21'57.02" N 0°47'19.85" W) (Approximately 80 m north of ZA255) Rural industrial area (52°21'51.01" N 0°47'10.41" W) (Approximately 180 m southeast of ZA255 and 90 m northwest of ZA256) Unspecified surface ground workings (52°14'46.64" N 0°43'41.35" W) (At location of ZA300A). See Note (6) Electrical station (Grendon National Grid Station) (52°14'34.67" N 0°43'47.23" W) (Approximately 45 m southeast of ZA300B, 30 m east of ZA300C ZA300D) Electrical station (Grendon National Grid Station) - known existing national grid infrastructure
2005 (Google Earth Imagery)	No significant additional potentially contaminative land features identified.
2006 (Google Earth Imagery)	No significant additional potentially contaminative land features identified.
2009 (Google Earth Imagery)	No significant additional potentially contaminative land features identified.
2010 (Google Earth Imagery)	No significant additional potentially contaminative land features identified
2017 (Google Earth Imagery)	Development of a grass field into multiple agricultural/industrial yards (52°26'12.72" N 0°52'09.77" W) (approximately 40 m north of ZA226). See Note (7) and (12)

2018 (Google Earth Imagery)	Developed large industrial area (Logistics and transport) (52°18'32.23" N 0°44'30.83" W) (Approximately 20 m west of ZA278) See Note (9) and (11)
2020 (Google Earth Imagery)	Further expansion of Developed large industrial area. See Note (9)
2022 (Google Earth Imagery)	Ground disturbance/evidence of construction (52°27'51.93" N 0°53'07.54" W) (On-site at location of ZA216). See note (10)
2023 (Google Earth Imagery)	Further expansion of Developed large industrial area. See Note (11)
2025 (Google Earth Imagery)	Electrical Substation (52°27'51.93" N 0°53'07.54" W) (On-site at location of ZA216) Site resembles above description.

Notes:

- (a) 1945 – 1986: Low resolution imagery. Features unable to be identified.
- (1) 1999: Unspecified stockpiles - Several miscellaneous stockpiles including potential farm scrap
- (2) 1999: Industrial Rural Development - from 1999 – 2025, expanding to the south of Great Bowden Lane. Several associated unspecified stockpiles overtime and industrial buildings, regular circular patches of ground discolouration and development of hardstanding. Development extends south in 2021 within 10 m range of ZA198.
- (3) 2002: Railway - A current railway crosses the site in between towers ZA216 and ZA217.
- (4) 2004: Agricultural Buildings - Potential farm scrap onsite, multiple barns/warehouse buildings, unspecified stockpiles and yard area.
- (5) 2004: Agricultural buildings - Potential livestock rearing building
- (6) 2004: Unspecified ground workings - evidence of disturbed ground and heavy plant vehicles, 2005: Unspecified heavy ground workings (52°14'46.64" N 0°43'41.35" W) (At location of ZA300A) is now an agricultural field
- (7) 2017: Development of multiple agricultural/Industrial Yards - evidence of fly tipping/industrial waste

(8) 2010: Dark coloured aggregate storage (52°39'14.52" N 0°55'00.66" W) (Approximately 100 m southeast of ZA151) no longer visible in subsequent satellite imagery.

(9) 2020: Further expansion south and addition of another large warehouse approximately 20 m west of ZA279

(10) 2022: Identified as construction works for the electrical substation identified in 2025

(11) 2023: Further expansion south and addition of another large warehouse approximately 50 m east of ZA279

Site resembles above description.

(12) 2022: Further expansion of development of multiple agricultural/industrial yards to the south within approximately 30 m of ZA226

Appendix C

Approach to Geo- environmental Reporting

Appendix C Approach to Geo-environmental Reporting

Approach to Geo-environmental Reporting

Legislative Context and Guidance

Where this report relates to existing or proposed planning application, it considers the contents of the Town and Country Planning Act 1990 (as amended), the National Planning Policy Framework (2012, updated in December 2024) and considers the potential implications of Part 2A of the Environmental Protection Act 1990 (Part 2A) and the associated Contaminated Land (England) Regulations 2006 and Contaminated Land Statutory Guidance (2012).

This report has been prepared in general accordance with the technical guidance and procedures described in the UK Government guidance Land Contamination: Risk Management (2019) and its predecessor, Model Procedures for the Management of Land Contamination, Contaminated Land Report (CLR) 11 (Department of Food and Rural Affairs (Defra)/Environment Agency, 2004), British Standard (BS) 5930:2015 (as amended) Code of Practice for Site Investigations (BSI), BS:EN 1997 Eurocode 7 – Geotechnical Design (BSI) and BS 10175:2026 (as amended) Investigation of Potentially Contaminated Sites – Code of Practice (BSI).

Historical Map Review

AECOM notes that only indicative map scales are provided. Where dates are stated, these refer to the dates of maps on which the features are present, have changed use or are no longer annotated, and do not necessarily refer to the exact dates of existence of a particular feature. Development that may have occurred between map editions is recorded as occurring on the latter published map, hence there are some limitations to the accuracy to the date of development unless supplementary evidence is available.

Conceptual Site Model Derivation

The CSM is aimed at identifying possible risks, if any, arising from substances used or deposited on-site, or from other sources of land contamination. Both past and current potentially contaminative land uses have been considered. It is based on the proposed site redevelopment described in Section 1 of this report.

Assessment Framework

The site, in terms of potential land contamination, will be regulated by the Local Authority under the Town and Country Planning Act 1990 (as amended), taking account of the National Planning Policy Framework (2012, updated in December 2024), with the Environment Agency, Natural England and English Heritage acting as potential statutory consultees.

Environmental liabilities can arise through provisions contained within statutory legislation including Part 2A of the EPA 1990, the Environmental Damage (Prevention and Remediation) Regulations 2009, the Water Resources Act 1991, the Groundwater Regulations 2009 and the Water Act 2003.

Current best practice recommends that the determination of health hazards due to contaminated land is based on the principle of risk assessment, as outlined in the Statutory Guidance to Part 2A (2012) and Land Contamination: Risk Management (LCRM).

The “suitable for use” approach is adopted (as outlined in the Contaminated Land Statutory Guidance) for the assessment of contaminated land where remedial measures are undertaken where unacceptable risks to human health or the environment are realised taking into account the use (or proposed use) of the land in question and the environmental setting.

The risk assessment process for environmental contaminants is based on a source-pathway-receptor analysis. These terms can be defined as follows:

- **Source:** hazardous substance that has the potential to cause adverse impacts;
- **Pathway:** route whereby a hazardous substance may come into contact with the receptor: examples include ingestion of contaminated soil and leaching of contaminants from soil into watercourses; and
- **Receptor:** target that may be affected by contamination: examples include human occupants/ users of site, water resources (surface waters or groundwater), or structures.

For a risk to be present, there must be a relevant / viable contaminant linkage; i.e. a mechanism whereby a source impacts on a sensitive receptor via a pathway.

AECOM have determined the potential sources, pathways and receptors to assess potential risks/ liabilities and constraints associated with the site in its current condition prior to any proposed redevelopment. Risks associated with the proposed redevelopment have also been assessed based on the future land use scenario specified, including any potential sources of contamination, potential receptors and potential contaminant pathways identified during this desk based assessment.

Approach to Risk Assessment

Current best practice recommends that the determination of hazards due to contaminated land is based on the principle of risk assessment, as outlined in the Environment Agency guidance on LCRM.

For a risk to be present, there must be a viable contaminant linkage; i.e. a mechanism whereby a source impacts on a sensitive receptor via a pathway.

Assessments of risks associated with each of these contaminant linkages are discussed in the following sections.

Using criteria broadly based on those presented in the CIRIA C552, the magnitude of the risk associated with potential contamination at the Site has been assessed. To do this an estimate is made of:

- The magnitude of the potential consequence (i.e. severity);
- The magnitude of probability (i.e. likelihood).

The severity of the risk is classified according to the criteria in Table B.1.

Table C.1 Description of Severity of Risk

Severity	Definition	Examples (as defined by C552)
Severe	13.1.2 Short-term (acute) risk to human health likely to result in "significant harm" as defined by Environmental Protection Act 1990, Part IIA. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings \ property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems Within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	13.1.3 Chronic damage to Human Health ("significant harm" as defined in DETR 2000). Pollution of sensitive water resources (note: Water Resources Act contains no for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem. (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	13.1.4 Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ("significant harm" as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings / structures / services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).

Minor	13.1.5	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, Structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.
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The probability of the risk occurring is classified according to the criteria in Table B.2.

Table C.2 Likelihood of Risk Occurrence

Likelihood	Definition	Example
High	There is a pollutant linkage and an event that either appears very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	The contaminant linkage exists or is very likely to exist in the short term, and / or may also be linked to visual / olfactory evidence of that linkage being present and active in some cases. The conditions are such that there is no foreseeable reason to suggest that a source-pathway-receptor linkage is not occurring and required mediums for a contamination source to pass through / within to reach a receptor are all present.
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	The conditions are such that there are very few foreseeable reasons to suggest that a source-pathway-receptor linkage is not occurring, and that all or most of the required mediums for a contamination source to pass through / within to each a receptor are present.
Low Likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term.	The source, pathway and receptor linkage may exist and it is possible that contamination could reach a receptor in certain circumstances. The site conditions indicate that there are limiting factors in the pathway mediums / generation potential of the source / or presence of the receptor.
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	The source, pathway and receptor may exist in certain circumstances, but the contaminant linkage is improbable in the short term and in the long term.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability, as shown in Table B.3.

Table C.3 Risk based on Comparison of Likelihood and Severity

		Severity			
		SEVERE	MEDIUM	MILD	MINOR
Likelihood	HIGH	Very High	High	Moderate	Moderate/Low
	LIKELY	High	Moderate	Moderate/Low	Low
	LOW	Moderate	Moderate/Low	Low	Very Low
	UNLIKELY	Moderate/Low	Low	Very Low	Very Low

Further description of the classified risks as defined by CIRIA C552 is provided below.

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

Discussion of Acute Risk to Construction Workers

AECOM understands that the proposed development works will be undertaken in compliance with Construction Design and Management (CDM) 2015 regulations.

Prior to work commencing, a health and safety risk assessment should be carried out by the appointed Principal Contractor / developed in accordance with current health and safety regulations. This assessment should cover potential risks to construction staff, permanent site staff and the local population. Based on the findings of this risk assessment, appropriate mitigation measures should be implemented during the construction period.

The greatest potential for generation of dust will be during the Site works and therefore dust generation should be kept to a minimum in accordance with general best practice, as outlined in, for example, 'Environmental Good Practice on Site', CIRIA Publication C692 to reduce this risk.

The risk to construction workers during the excavation and construction phases in terms of potential exposure to high concentrations of contaminants is considered to be low given the historic and current land uses identified at the Site. Should gross contamination be identified during the construction phase, then this may pose a potential acute risk to construction works. It is likely to be able to be effectively managed through good health and safety practices and protocols. Adoption of appropriate dust suppression techniques would also mitigate the degree of potential particulate migration off-site.

Appendix D Initial Conceptual Site Model

Appendix D Initial Conceptual Site Model

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification	
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
Agricultural Land, Made Ground, Infilled Land, Railway Land, Tanks, Historical Water Pumping Station, Sewage/Sludge Storage sites, Chemical Works, Electrical Substation/Features, Landfills and other Waste Sites, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings.	Human Health	Trespassers, general public and site users post development / during construction i.e., owners of land or public passing through rights of way	Agricultural Land, Made Ground, Railway Land / buildings, Tanks, Quarries, Pits and Ground Workings - All Towers				Sources of potential contamination with respect to trespassers, public and site users as receptors have been divided into sources considered to be of a lower-level contamination (agricultural land, Made ground and infilled land) and those of a higher-level contamination (railway land / buildings, tanks and the water pumping station, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings). Agricultural Land, Made Ground and Infilled Land– All Sections On Site sources and their associated contaminants are listed in Table 9-1. Surrounding land is used for agricultural purposes along the extent of the site, with the use of herbicides/pesticides the predominant CoPC. The likely use of these across the sites means presence in soils and groundwater is likely. However, a Low risk remains here due to the unlikely contact of soils from the receptors walking above ground as diffusive application is suspected, excluding areas where tanks have been noted that may be associated with agricultural land uses. These are potential point sources of contamination and risk may be increased. The walkover should be designed to visit farms within 75 m of any existing electricity towers and note the potential presence of these tanks. Made Ground is also anticipated to be present in some areas due to the presence of various infrastructure and buildings, such as residential homes, in the vicinity of the transmission towers and OHL, which are unlikely to present a substantial source of contamination. It is unlikely for the receptors to come into direct contact with the soils, with crop coverage limiting the likelihood of soil disturbance and particulates becoming airborne. No volatile vapours are noted in association with Agricultural Land or Made Ground. Infilled Land Former ponds, ground workings, quarries and/or pits that have since been potentially infilled are present along the extent of the site. The nature of the fill and associated contaminants are unknown. Possible presence of asbestos is associated with the above sources. A potentially infilled pond is located adjacent to ZA210 (shown on historical mapping between 1885-1924). All other potentially infilled ponds are at least 20m from the nearest tower and former quarries / ground workings are at a minimum 55m from the nearest tower. It is unlikely for the receptors to come into direct contact with the soils, with crop coverage limiting the likelihood of soil disturbance and particulates becoming airborne. There is a higher potential for vapour generation due to the unknown nature of the fill material and potential for VOCs to be present. However, the area of infilled land adjacent to ZA210 was infilled >100 years ago and is unlikely to remain a substantial source of vapours. Other areas of infilled land are located at least 20m from the relevant towers and are therefore less likely to impact receptors. Additionally, vapours would be expected to dissipate into the open air. The risk is therefore considered to be Low. For Made Ground and infilled land, in accordance with BS 8576 the potential for gas generation is classified as ‘very low to low’ as outlined in Table 9-2,
			Inhalation of contaminants in soil-derived dust and asbestos fibres	Unlikely	Medium	Low Risk	
			Infilled Land - ZA109, ZA118, ZA125, ZA131, ZA144, ZA150, ZA156, ZA185, ZA191, ZA210, ZA215, ZA220, ZA243, ZA244, ZA249, ZA266, ZA284, ZA294				
			Inhalation of contaminants in soil-derived dust and asbestos fibres	Unlikely	Medium	Low Risk	
			Historical Water Pumping Station, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use and Unspecified Works/Factory - ZA108, ZA115, ZA151, ZA211, ZA213, ZA217, ZA216, ZA220, ZA226, ZA235, ZA247, ZA248, ZA265, ZA277, ZA278, ZA284, ZA288, ZA295, ZA299, ZA300A, ZA300C, ZA300D, ZA301, ZA302				
			Inhalation of contaminants in soil-derived dust and asbestos fibres	Low	Medium	Moderate/Low Risk	
			All on Site sources - All Towers				
			Dermal contact with and ingestion of contaminants in soil, soil-derived dust and water.	Unlikely	Medium	Low Risk	

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification	
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
			Inhalation of vapours - outdoors	Unlikely	Medium	Low Risk	therefore due to the limited gas generation potential of the source, and the dissipation of gases into the open air, the risk in line with CIRIA C522 is considered to be Low. Railway Land, Tanks, Sludge Storage Sites, Historical Water Pumping Stations, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings Dermal contact and ingestion with contaminants associated with the Historical Water Pumping Station, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use and Unspecified Works/Factory is considered Low risk, due to the short-term exposure, but also due to the unlikely contact with impacted soils due to Site restrictions. Possible presence of asbestos is associated with the above sources. Based on this, an increased risk of Moderate/Low has been adopted in respect to inhalation of fibres which may come loose on windy days. For identified potential sources of gases in accordance with BS 8576 the potential for gas generation is classified as follows: - Sludge Storage – “Low to Moderate” - Landfill – “High to Very High” Therefore, consequences are elevated in areas of Sludge Storage and Landfill due to the potential for increased gas concentrations, most notably in the occurrence of ground disturbance, creating the exposure pathway. This must be considered before undertaking any GI or construction works on identified towers. However, pedestrian activity is not anticipated to result in ground disturbance and due to the nature of the Site dissipation of gases into the open air is anticipated. Therefore, risk is considered to be Moderate/Low Risk for these two sources. All other sources are not noted to generate ground gas and have not been assessed. For other identified potential sources of vapours risk is considered Low. Sources and justification are listed below: - Identified Quarries, Pits and Ground Workings (1884 – 1986) – infilled ground, with limit volatile vapours likely to be present – vapours expected to have dissipated - Railway Land - considers that re-fuelling activities would not have taken place on sections of the running line limiting the risk with respect to both volatile compounds Additionally, vapours expected to have dissipated. - Pumping Station associated to a Covered Reservoir (1950-1972) - short-term exposure and restrictions entering the pumping station area should be in place.
			Made Ground, Quarries, Pits and Ground Workings – All Towers				
			Gas inhalation	Unlikely	Medium ¹	Low Risk	
			Infilled Land - ZA109, ZA118, ZA125, ZA131, ZA144, ZA150, ZA156, ZA185, ZA191, ZA210, ZA215, ZA220, ZA243, ZA244, ZA249, ZA266, ZA284, ZA294				
			Gas inhalation	Unlikely	Medium ²	Low Risk	
Sludge Storage Sites, Landfills - ZA299, ZA284, ZA213, ZA214, ZA115, ZA220, ZA235, ZA151, ZA108, ZA217, ZA296, ZA288, ZA185, ZA279, ZA274, ZA241, ZA187, ZA164, ZA166, ZA175, ZA176, ZA218, ZA207, ZA231							

¹ Source severity has been downgraded to 'Medium' as ground gas sources identified have a 'Very Low or 'Low' ground gas generation potential and vapour sources are considered to be limited in potential concentration and extent. Therefore, ground gas sources are unlikely to generate significant concentrations capable of meeting the 'Severe' severity rating as defined in CIRIA C552.

² Source severity has been downgraded to 'Medium' as ground gas sources identified have a 'Very Low or 'Low' ground gas generation potential and vapour sources are considered to be limited in potential concentration and extent. Therefore, ground gas sources are unlikely to generate significant concentrations capable of meeting the 'Severe' severity rating as defined in CIRIA C552.

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification	
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
			Gas inhalation	Unlikely	Severe ¹	Moderate/Low Risk	- Chemical Works – no evidence of existence on current ariel photographs – vapours expected to have dissipated - Industrial Land Use – most notable, determined by most recent listing in the Groundsure data (1989, 1992) and anticipated enclosed structures is an Industrial Estate. This is still present on current aerial photography, it is anticipated that sufficient vapour control measures are in place - Unspecified Works/Factory – listed in the Groundsure data in 1971 - vapours expected to have dissipated The CoPC associated with the tanks did not identify volatile vapours as being present, therefore no further assessment has been made.
		Construction / Ground Investigation	Agricultural Land, Made Ground, Railway Land / buildings, Tanks, Quarries, Pits and Ground Workings - All Towers				As above, the sources on Site have been split between those considered of a higher-level contaminative source and those lower. Note, that where a higher than Low risk is noted, this is only considered in areas where the source is identified within 75 m of an existing tower. Beyond this, the risk is considered Low. Agricultural Land, Made Ground and Infilled Land Quarries, Pits and Ground Workings - All Sections For construction workers the risk is typically slightly increased as it is anticipated that soils will be disturbed during the GI and construction phases, as well as the potential for workers to enter confined spaces (such as excavations). However, due to the nature of these sources which are unlikely to present a substantial source of contamination, the risk is considered to be Low for inhalation of contaminants, dermal contact and ingestion. The use of diffuse application (crop spraying) across the extent of the site is anticipated but not considered to be of risk to construction workers disturbing the soils. Risk may be elevated where tanks have been noted that may be associated with agricultural land uses, as these are potential point sources of contamination. The walkover should be designed to visit farms within 250 m of any existing electricity towers and note the potential presence of these tanks. Risks during construction are expected to be managed through appropriate work methods. No volatile vapours are noted in association with Agricultural Land and Made Ground. While construction workers may enter confined spaces the likelihood for gases to accumulate to harmful levels is unlikely – for Made Ground, in accordance with BS 8576 the potential for gas generation is classified as ‘very low to low’, and gases are expected to dissipate in the open air. Therefore, due to the limited gas generation potential of the source, the risk in line with CIRIA C552 is considered to be Low. Infilled Land The nature of the fill in former ponds, ground workings, quarries and/or pits and associated contaminants along the site extent are unknown. Possible presence of asbestos is associated with the above sources. However, due to the distance to the majority of these features (at least 20m from the nearest tower) the risk is considered to be Low for inhalation of contaminants, dermal contact and ingestion. At ZA210, where a potentially infilled pond was located adjacent to the tower, a Moderate/Low risk has been assessed.
			Inhalation of contaminants in soil-derived dust and asbestos fibres.	Unlikely	Medium	Low Risk	
			Dermal contact with and ingestion of contaminants in soil, soil-derived dust and water.	Unlikely	Medium	Low Risk	
			Infilled Land - ZA109, ZA118, ZA125, ZA131, ZA144, ZA150, ZA156, ZA185, ZA191, ZA215, ZA220, ZA243, ZA244, ZA249, ZA266, ZA284, ZA294				
			Inhalation of contaminants in soil-derived dust and asbestos fibres.	Unlikely	Medium	Low Risk	
			Dermal contact with and ingestion of contaminants in soil, soil-derived dust and water.	Unlikely	Medium	Low Risk	
			Infilled Land - ZA210				
			Inhalation of contaminants in soil-derived dust and asbestos fibres.	Low	Medium	Moderate/Low Risk	

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification	
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
		Dermal contact with and ingestion of contaminants in soil, soil-derived dust and water.	Low	Medium	Moderate/Low Risk	There is a higher potential for vapour generation due to the unknown nature of the fill material and potential for VOCs to be present. However, the area of infilled land adjacent to ZA210 was infilled >100 years ago and is unlikely to remain a substantial source of vapours. Other areas of infilled land are located at least 20m from the relevant towers and are therefore less likely to impact receptors. Additionally, vapours would be expected to dissipate into the open air. The risk is therefore considered to be Low. For infilled land, while construction workers may enter confined spaces the likelihood for gases to accumulate to harmful levels is unlikely; in accordance with BS 8576 the potential for gas generation is classified as ‘very low to low’ as outlined in Table 9-2, therefore due to the limited gas generation potential of the source, and the dissipation of gases into the open air, the risk in line with CIRIA C522 is considered to be Low. Railway Land, Tanks, Sludge Storage Sites, Historical Water Pumping Stations, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings The above sources are noted on Site. It is considered that due to the CoPC associated with these sources and the fact that GI and construction phases are anticipated to lead to the disturbance of soils the risk associated with dust inhalation, dermal contact and ingestion is slightly increased compared to other onsite receptors and has been assessed as Moderate/Low. Particular care should be taken where disturbance / excavation of soils taken place near ZA211 where the former Chemical Works is present, due to the record of the List 2 Dangerous Substances is present. The potential presence of asbestos is associated with the identified sources remains as a Moderate/Low risk. The same risk is given due to windy days causing airborne particles to be inhaled. Should demolition of any structures associated with these identified sources occur, this risk will need to be raised. Volatile compounds which could produce organic vapours are likely to be associated with refuelling activities for trains. However, as mentioned above re-fuelling activities would not have taken place on sections of the running line limits the risk with respect to volatile compounds. Therefore, the risk from vapours remains Low. For identified potential sources of gases in accordance with BS 8576 the potential for gas generation is classified as follows: - Sludge Storage – “Low to Moderate” - Landfill – “High to Very High” Risk is considered elevated in areas of more recent landfill. Determined risk in this risk assessment does not account for workers entering confined spaces (such as excavations), this would elevate the risk and requires further consideration. As justified above the risk of vapours from identified Chemical Works, Industrial Land Use and Unspecified Works/Factory is considered Low. Ground gas is not identified as a CoPC with regard to railway land, tanks or the pumping station. For sludge storage sites and landfill however, there is a ‘Low to	
		Historical Water Pumping Station, Chemical Works, Electrical Substation/Features, Landfills, Industrial Land Use and Unspecified Works/Factory - ZA108, ZA115, ZA151, ZA211, ZA213, ZA216, ZA217, ZA220, ZA226, ZA235, ZA247, ZA248, ZA265, ZA277, ZA278, ZA284, ZA288, ZA295, ZA299, ZA300A, ZA300C, ZA300D, ZA301, ZA302					
		Inhalation of contaminants in soil-derived dust and asbestos fibres.	Low	Medium	Moderate/Low Risk		
		Dermal contact with and ingestion of contaminants in soil, soil-derived dust and water.	Low	Medium	Moderate/Low Risk		
		Made Ground, Railway Land, Historical Water Pumping Station, Chemical Works, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings – All Towers					
		Intrusion and inhalation of vapours.	Unlikely	Medium	Low Risk		
		Gas ingress – inhalation.	Unlikely	Medium	Low Risk		
		Infilled Land - ZA109, ZA118, ZA125, ZA131, ZA144, ZA150, ZA156, ZA185, ZA191, ZA215, ZA210, ZA220, ZA243, ZA244, ZA249, ZA266, ZA284, ZA294					
		Intrusion and inhalation of vapours.	Unlikely	Medium	Low Risk		
		Gas ingress – inhalation.	Unlikely	Medium	Low Risk		
		Sludge Storage Sites, Historical Landfill - ZA185, ZA279, ZA274, ZA241, ZA187, ZA164, ZA166, ZA175, ZA176, ZA218, ZA207, ZA231 ZA299, ZA284, ZA115, ZA220, ZA235, ZA151, ZA108, ZA217, ZA296, ZA288					

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification	
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
			Gas ingress – inhalation.	Unlikely	Severe ¹	Moderate/Low Risk	Moderate’ and “High to Very High” respectively for ground gas generation in accordance with BS 8576. Overall, the risk is considered moderate excluding where ground may be broken, and construction workers may enter confined spaces. Here the risk from ground gas inhalation would increase to High, however it would be anticipated necessary controls would be in place and risk can remain Moderate.
			Recent Landfill (post 1990) - ZA213 - ZA214				
			Gas ingress – inhalation.	Low	Severe	Moderate Risk	
	Controlled Waters	<u>Superficial Aquifers:</u> Secondary-A, Secondary-B, Secondary (Undifferentiated) <u>Bedrock Aquifers:</u> Principal, Secondary-A, Secondary-B, Secondary (Undifferentiated), Unproductive	Unproductive and Secondary B Aquifers - Agricultural Land, Made Ground/Infilled Land, Railway Land, Sewage / Storage of Sludge Sites, Tanks, Landfill/Waste Treatment and Disposal Sites, Quarries, Pits and Ground Workings – ZA122 - ZA125, ZA127- ZA128, ZA131 - ZA136, ZA139 - ZA143, ZA145 - ZA146, ZA148 - ZA150, ZA152 - ZA153, ZA157 - ZA164, ZA174 - ZA176, ZA253 - ZA258, ZA263 - ZA268, ZA271 - ZA275, ZA282 - ZA286, ZA288 - ZA293, access corridor west of ZA298				The risks to controlled waters with respect to groundwater depends on the proximity to the sources and the type of aquifer present in that area and the geology, as well the presence of any SPZs or abstraction points, and the depth to groundwater. Based on this, the risk to groundwater has been split by aquifer type. Section 3.5 outlines the superficial and bedrock geologies associated with each aquifer classifications across the site.
			Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers	Low	Mild	Low Risk	Unproductive and Secondary B Aquifers The on Site sources of Agricultural Land, Made Ground, Infilled Land, Railway Land and some of the Sewage / Storage of Sludge Sites (ZA164/175-176/274), Tanks (ZA293), Landfill/Waste Treatment and Disposal Sites (ZA284/8) and Quarries, Pits and Ground Workings (ZA265-6) are all located within areas of Secondary B superficial aquifers and unproductive aquifers. These aquifers typically have a limited water resource value and are unlikely to transmit potential contamination quickly or widely due to their low permeability. In this example they are associated with the Colluvium and Rutland Formation which may only store/yield limited amounts of groundwater due to localised features such as fissures and are generally the water-bearing parts of the former non-aquifers. The likelihood of these linkages has therefore been assessed as low, with a mild consequence and an overall risk of Low.
			Lateral and vertical migration of groundwater	Low	Mild	Low Risk	Secondary Undifferentiated Sources considered to have a higher potential of contamination are located within areas of secondary undifferentiated aquifers. These sources are considered likely to present a source of contamination. It should be noted that Secondary undifferentiated aquifers have variable characteristics and the potential to have the properties of either Secondary A or B aquifers and may have minor water supply value. Due to potential high-level contamination the risk
			Secondary Undifferentiated Aquifers – Railway Land, Chemical Works, Electrical Substation/Features, Tanks, Sewage / Storage of Sludge Sites, Landfill/Waste Treatment and Disposal Sites, Unspecified Works/Factory – ZA108 – ZA109, ZA115, ZA164, ZA185, ZA199, ZA203, ZA205, ZA211, ZA213 – ZA214, ZA216, ZA220, ZA226, ZA241, ZA246 – ZA247, ZA278, ZA284, access corridor east of ZA150, access corridor west of ZA162, access corridor west of ZA216				

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification			
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors									
			Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers	Likely	Medium	Moderate	is deemed as Moderate. Where lower contaminative sources such as Made Ground, infilled land and agricultural land are present, the risk is typically lower, with a Moderate/Low risk deemed appropriate. Principal and Secondary A Aquifers These aquifers are typically more permeable and productive, providing water supply or baseflow to rivers and are therefore generally more vulnerable to pollution. Where agricultural land, Made Ground and infilled land are present the underlying geology varies, with Alluvium, River Terrace, Glaciofluvial, Sand and Gravel deposits noted above or within this aquifers units. A lack of cohesive barrier allows for the downwards migration of contaminants into these more vulnerable aquifers. Based on this, a risk of Moderate/Low has been assigned with respect to these lower potential contamination sources across the majority of site where principal / secondary A aquifers exist. Several identified higher potential contamination sources are identified within 75m of existing electricity towers located on Principal and Secondary A aquifers. Non-cohesive superficial deposits are noted on Site, listed in Table 3-1, which do not form a barrier to contaminants migrating downwards into the bedrock aquifers. Based on this, a Moderate risk has been deemed appropriate within 75m of these areas. No current potable groundwater abstraction points are noted on-site and no Source Protection Zones were identified within the Reconductoring Area.		
			Lateral and vertical migration of groundwater	Likely	Medium	Moderate			
			Principal, Secondary A and Secondary Undifferentiated Aquifers - Made Ground, Agricultural Land and Infilled Land - ZA105 - ZA166, ZA170 - ZA208, ZA213 - ZA214, ZA216 - ZA221, ZA223 - ZA228, ZA230, ZA233 - ZA237, ZA240 - ZA297, ZA299 - ZA300D, all access corridors except those east of ZA211/ZA212, east of ZA222, east of ZA223, east and west of ZA298						
			Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers	Low	Medium	Moderate/Low Risk			
			Lateral and vertical migration of groundwater	Low	Medium	Moderate/Low Risk			
			Principal and Secondary A Aquifers – Railway Land, Electrical Substation/Features, Tanks, Landfill/Waste Treatment and Disposal Sites, Historical Water Pumping Station, Sewage / Storage of Sludge Sites, Industrial Land Use, Unspecified Works/Factory, Quarries, Pits and Ground Workings - ZA105 - ZA107, ZA112 - ZA117, ZA122 - ZA123, ZA135 - ZA140, ZA151 - ZA156, ZA157 - ZA160, ZA163 - ZA167, ZA171 - ZA172, ZA173 - ZA181, ZA185 - ZA186, ZA196 - ZA206, ZA220 - ZA221, ZA230 - ZA237, ZA239 - ZA254, ZA257 - ZA276, ZA282 - ZA300D, access corridor west of ZA199, access corridor east of ZA242 and ZA243, access corridor east of ZA245, access corridor west of ZA249, access corridor west of ZA259						
			Leaching of contaminants in the unsaturated zone to groundwater in underlying aquifers	Likely	Medium	Moderate Risk			
			Lateral and vertical migration of groundwater	Likely	Medium	Moderate Risk			
			Surface Water Features listed in Section 3.10.1, including numerous	Areas of Impermeable Soils (cohesive deposits) - ZA122- ZA125, ZA127- ZA128, ZA131 - ZA136, ZA139 - ZA143, ZA145 - ZA146, ZA148 - ZA150, ZA152 - ZA153, ZA157 - ZA164, ZA174 - ZA176, ZA253 - ZA258, ZA263 - ZA268, ZA271 - ZA275, ZA282 - ZA286, ZA288 - ZA293, access corridor west of ZA298				Due to the extent of the site and number of watercourses identified in Section 3.10.1. and potential sources of contamination listed in Table 9-1. To take a conservative approach and considering the sensitivity of surface waters and as a	

Source	Receptor	Exposure Pathway		Probability	Consequence	Risk Category	Justification
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors							
		named and unnamed drains/drainage channels.	Lateral migration of contaminated groundwater with discharge to surface watercourses as base flow.	Unlikely	Medium	Low Risk	receptor and connectivity it is considered that all potential sources of contamination may impact a major surface water feature, even for sources considered to be of lower-level contamination. For example, where the extent of the site is occupied by agricultural land, the potential for herbicides/pesticides used on site to enter watercourses is possible. Presence of major drainage channels and streams cannot be discounted, which would result in connecting waters to those larger watercourses. With the land dominated by agriculture, crops and vegetation limits the amount of runoff. However, it should be noted that although the superficial deposits across the site are variable, the presence of impermeable clay layers would limit the permeability in these areas. Equally in some areas, confining aquifers with impermeable strata also results in these impermeable barriers to migrating contaminants. Based on this, the risk to surface waters has been sub divided into the below: - In areas where an impermeable barrier is present would suggest a Low risk with respect to baseflow and a Moderate/Low risk with respect to surface run-off, due to the opposing effects an impermeable stratum would have on surface waters. - In areas where permeable granular deposits are noted a Moderate/Low risk with respect to baseflow, and a Low risk with respect to surface run-off is considered.
			Discharge of contaminants entrained in surface water run-off followed by overland flow and discharge.	Low	Medium	Moderate/Low Risk	
			Areas of Permeable Soils (granular deposits) - ZA105 - ZA107, ZA112 - ZA117, ZA122 - ZA123, ZA135 - ZA140, ZA151 - ZA156, ZA157 - ZA160, ZA163 - ZA167, ZA171 - ZA172, ZA173 - ZA181, ZA185 - ZA186, ZA196 - ZA206, ZA220 - ZA221, ZA230 - ZA237, ZA239 - ZA254, ZA257 - ZA276, ZA282 - ZA300D, access corridor east of ZA150, access corridor west of ZA162, access corridor west of ZA199, access corridor west of ZA216, access corridor east of ZA242 and ZA243, access corridor east of ZA245, access corridor west of ZA249, access corridor west of ZA259				
			Lateral migration of contaminated groundwater with discharge to surface watercourses as base flow.	Low	Medium	Moderate/Low Risk	
			Discharge of contaminants entrained in surface water run-off followed by overland flow and discharge.	Unlikely	Medium	Low Risk	
			Property	Foundations for Pylons	Made Ground, Infilled Land, Railways, Tanks and Pumping Station – All Sections		
	Direct contact of contaminants in soil and/or groundwater	Low			Mild	Low Risk	
	Agricultural Land (only) – All Sections						

Source	Receptor	Exposure Pathway	Probability	Consequence	Risk Category	Justification
Main contributing factors—sources or receptors—driving the risk rating in proximity of the specified towers/access corridors						
	Livestock and Crops	Direct contact of contaminants in soil and/or groundwater	Unlikely	Mild	Very Low	aggressive ground conditions. Based on this an overall Low risk has been given for the site, although a Very Low risk may be considered for the majority.
		Railway Land, Tanks and Water Pumping Station – All Sections				There is a potential for livestock/crops to be present on Site due to the rural nature. However, in areas where particular risk is present (i.e., railway land, tanks, pumping stations) these areas are likely to be sectioned off / located away from livestock and crop faming. Based on this, a Low risk has been assessed for railways, tanks and pumping stations and a Very Low risk for agricultural land and Made Ground. In regard to infilled land, the nature of the fill in former ponds, ground workings, quarries and/or pits and associated contaminants along the site extent are unknown. However, due to the distance to the majority of these features (at least 20m from the nearest tower) the risk is considered to be Very Low. At ZA210, where a potentially infilled pond was located adjacent to the tower, a Low risk has been assessed.
		Direct contact, ingestion and inhalation of contaminants in soil and/or groundwater Plant uptake via roots	Low	Mild	Low Risk	
		Infilled Land - ZA210				
		Direct contact, ingestion and inhalation of contaminants in soil and/or groundwater Plant uptake via roots	Low	Mild	Low Risk	
		Agricultural Land and Made Ground – All Sections				
		Direct contact, ingestion and inhalation of contaminants in soil and/or groundwater Plant uptake via roots	Unlikely	Mild	Very Low Risk	
		Infilled Land - ZA109, ZA118, ZA125, ZA131, ZA144, ZA150, ZA156, ZA185, ZA191, ZA215, ZA220, ZA243, ZA244, ZA249, ZA266, ZA284, ZA294				
		Direct contact, ingestion and inhalation of contaminants in soil and/or groundwater Plant uptake via roots	Unlikely	Mild	Very Low Risk	

Appendix E

Geotechnical

Risk Register

Appendix E Geotechnical Risk Register

Geotechnical Risk Register

A geotechnical risk register has been compiled to show the degree of risk attached to various ground related aspects of the proposed scheme. The purpose of the register is to produce an assessment of the risk to the project posed by site specific ground related problems and identify suitable mitigation measures to control the risk to an acceptable level. The risk register should be developed and refined as the geotechnical design and assessment progresses such that the register will allow management of the geotechnical risks.

The degree of risk (R) is determined by combining an assessment of the likelihood (L) of the hazard with an assessment of the severity (S) of the hazard. The scale against which the likelihood and severity are measured, and the resulting degree of risk determined are presented in presents the risk register for the proposed scheme.

Table E.1 Classification of Probability and Impact

Likelihood (L)		Severity (S)	
Very Likely	5	Very High	5
Likely	4	High	4
Probable	3	Medium	3
Unlikely	2	Low	2
Negligible	1	Very Low	1

Table E.2 Risk Matrix

Likelihood	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Severity				

Table E.3 Classification of Risk Rating

Risk rating	Response
Intolerable	Unacceptable
Substantial	Early Attention
Tolerable	Regular Attention
Trivial	Monitor

Table E.4 Geotechnical Risk Register

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Aggressive Ground Chemistry	Scheme wide, particularly Bedrock Area 1.	Sulphate bearing strata, including Charmouth, Scunthorpe and Whitby mudstones outcropping along route and areas of Made Ground. Potential for historical underestimation of sulphate potential.	4	3	12	May have had a deleterious effect on buried concrete foundations;	Shallow ground investigation to expose a representative sample of footings within highest risk geologies. Visual assessment of concrete footing condition. Complete testing on concrete core samples to assess concrete condition. Complete geochemical testing on soil samples to correlate with design sulphate class. Where replacement foundation elements are identified complete GI including geochemical testing to inform design chemical class for concrete mix.	1	3	3

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Groundwater	Scheme Wide	High groundwater in low lying locations and in the vicinity of surface water features Perched groundwater may be present in clayey superficial soils. Unexpected artesian conditions.	4	3	12	Flooding of excavations. Inadequate design (incorrect groundwater level assumptions), softening of foundation soils due to groundwater. Reduction in bearing and uplift resistance where foundations constructed below groundwater level.	Provision of groundwater control in temporary works design. Conservative approach to be taken at design stage in selecting groundwater level. Review ground investigation data and if required carry out additional ground investigation to install further monitoring instrumentation and continue to monitor groundwater levels. Groundwater monitoring to be continued into construction.	2	3	6

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Watercourses / flooding / Scour	Scheme wide, in the vicinity of surface water features Areas within EA Flood Zones 2 and 3	Flooding of nearby water courses, resulting in damage to infrastructure and scouring of foundations.	4	3	12	Stream scour undermining foundations following original design / installation leading to general reduction in foundation capacity.	Locate new OHL towers outside of flood zones where possible. Incorporate scour protection measures into foundation designs	3	2	6
Landslides / Slope Stability	Scheme wide, elevated risk between OHL towers ZA152 to ZA155	Instability within founding strata leading to downslope movement of superficial soils and/or rock blocks.	4	4	16	Excessive settlement of structures resulting in the reduction of capacity of OHL towers. Unstable access corridor leading to construction delays	Locate new OHL towers outside of areas with a higher risk of landslides. Monitor structures in close proximity to areas with a higher risk of landslides. Route access corridors around unstable ground and manage surface water to prevent concentrated infiltration into unstable ground.	1	4	4

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Collapsible and Ground Dissolution Stability	Bedrock Area 3 within Great Oolite Group limestones in eastern Northamptonshire Uplands (Blisworth Limestone and Wellingborough Member). Isolated hazard within Lias Formation Limestone (Marlstone Rock) in Bedrock Area 1.	There is potential for the limestone bedrock at the site to contain karst features.	3	3	9	Karst features may result in abnormal ground conditions and voids, posing a risk of subsidence / ground collapse. Although not identified within existing tower foundations change in loading conditions may induce failure Foundation installation may have created preferential groundwater ingress exacerbating dissolution features.	Ground investigation targeted to towers with increased or altered load distribution conditions, as these are considered highest likelihood to be at risk to karst conditions. Locate new OHL towers (if additional towers are required) at a safe distance from known karst features	2	3	6

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Shrinking or Swelling Clay Ground Stability	Scheme wide, particularly Bedrock Area 1	Potential high plasticity clays identified along route.	4	2	8	Unacceptable degrees of settlement, including differential settlement resulting in damage to infrastructure. Including potential for issues with excavation. Existing foundations likely to be installed at sufficient depth to avoid detrimental volume change effects	Ground investigations to identify underlying ground conditions and assess risk. Designs to account for shrink-swell and associated seasonal ground movements Appropriate design parameters to be incorporated into designs. Foundations for new structures at a greater depth than the volume change response zone for clays.	2	1	2

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Unknown / unexpected ground conditions	Scheme Wide	Absence of ground investigation information across site. Site is situated between mapped boundaries of multiple bedrocks which may not be a true reflection of the ground conditions. Impact of faulting and mineral extraction on site.	2	4	8	Damage to and possible failure of proposed development due to incorrect ground model, design parameters etc. Increased cost and delay to account for unexpected ground conditions.	Ground investigations and associated in-situ and laboratory testing to identify underlying ground conditions and assess risk, targeted across Site depending on nature of proposed development and outcome of QRA. Appropriate design ground model and parameters to be incorporated, considering changes in ground conditions. Consideration of inspection by a suitably qualified geotechnical engineer and inclusions of validation testing during construction to confirm design assumptions.	2	2	4

Lateral and vertical variabilities in ground conditions	Scheme wide	Variations in stratigraphy and engineering properties across the Reconductoring Area, leading to changes in ground conditions and potentially design / construction / maintenance requirements for new OHL towers. Variability in the lateral extents and vertical thickness of composition of superficial deposits and composition of in-situ bedrock, including: geological boundaries, faulting, buried channels / valley, boulders and variations in extents of alluvial channels. Historical / present day developments / land uses, including realignment of rivers, infilling ponds etc.	4	3	12	Damage to and possible failure of new OHL towers due to incorrect ground model, design parameters etc. Increased cost and delay to account for unexpected ground conditions.	Site reconnaissance by suitably qualified geotechnical engineer / engineering geologist, including inspection of existing and suspected features to further profile risk and identify variability at tower locations. Ground investigations to identify underlying ground conditions and assess risk. Where foundation upgrades or new towers are required: - Consider locating new foundations/towers outside of higher risk areas. - designs to account for variations (e.g. adopting material parameters corresponding to conservative ground condition assumptions; - account for potential for variability in foundation performance for each leg founded in different materials); or avoid hazards (e.g. extend foundations completely through problematic materials, ignoring base resistance in pile design, design shallow foundations to span voids etc.	2	2	4
Excavation instability,	Excavations within granular	Saturated granular deposits in areas	3	4	12	Unstable excavations,	Ground investigations to be undertaken to identify	2	3	6

including potential for saturated granular deposits and running sands	superficial deposits.	with a shallow groundwater table.				prone to collapse, posing risk to life and difficulties / delays during construction, with potential for increasing construction costs and causing delays.	underlying ground and groundwater conditions and assess risk. Instabilities to be considered during investigations, design and constructions e.g. through: - Battering back excavation faces to suitable safe angles. - Excavation support. - Selecting suitable excavation methodologies / equipment / plant. - For any permanent cuttings, engineering solution to mitigate instabilities e.g. retaining wall, soil nails, rock bolts, netting / mesh systems etc. Consideration of limiting any cut works, especially any permanent cuttings, in areas likely prone to excavation instabilities. Appropriate design parameter to be incorporated into designs. Consider ongoing monitoring post construction and maintenance plan, as appropriate, for any permanent cuttings.			
Recorded and unrecorded mining	Scheme wide, notably: Gravel extraction south of Asfordby and in River	Surface workings identified along route.	3	4	12	Presence of Made Ground within historical quarrying areas has potential for	Target GI for towers within affected areas to assess founding conditions. Design of new towers to extend through any Made Ground	2	4	8

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
	Nene area. Ironstone quarrying west of Rothwell / Loddington.					unrecorded voids to exist at or close to the site, leading to rapid surface collapse and / or settlement in the surrounding area. Likely that existing foundations considered Made Ground potential, some potential for activities post construction to have undermined foundations or loosened cover (leading to reduction in uplift capacity).	deposits, or consideration to excavate and replace.			

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Existing Underground and Overhead Services at proposed site of works	Scheme Wide	Ground Investigation Works; Site construction works, site clearance and site set-up (compound, access corridors etc.)	4	4	16	Increased cost and delay to divert or lower services; H&S impact during any excavations during Ground Investigation or construction; Relocation of ground investigation or site area to avoid overhead services; Scheme design alterations to avoid overhead/underground services.	Obtain up to date service plans and records; Undertake safe digging procedures in accordance with HSG47 and PAS128; Undertake GPR surveys and mark out services prior to any investigations; Plan Ground Investigation to avoid buried services; Design proposed scheme to minimise impact on existing services.	2	4	8

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Mitigation Measures	Risk after Control		
			L	S	RR (LxS)			L	S	RR (LxS)
Unexploded ordnance (UXO)	Scheme Wide	Preliminary UXO Risk Assessment has identified potential sources of UXO on or within 5 km of the Site including WWII bombing, military training areas and airfields, bombing decoy sites, historic ordnance clearance task sites, and an ordnance factory or storage site.	2	5	10	Potential for loss of life if struck. Delays / increased costs if encountered. Excavations for existing foundation installation likely to have discovered UXO if present in tower locations, however remains a consideration for new excavations and GI.	Obtain Detailed UXO Risk Assessment to further inform risk and mitigation measures. Mitigation measures implemented based on UXO assessments prior to any breaking ground works. If further assessment not undertaken prior to ground investigation works, full UXO supervision / mitigation measures to be incorporated throughout works.	2	4	8

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