

North London Reinforcement Project

Requirement 11 – Contaminated Land and Groundwater

Contaminated Land and Groundwater Technical Covering Report: London Borough of Haringey

National Grid
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1 INTRODUCTION

1.1 Project Brief

1.1.1 This document has been prepared by Arthian Ltd on behalf of Morrison Energy Services (Transmission Networks) Ltd, for National Grid Electricity Transmission plc ('National Grid').

1.1.2 This document comprises the Contaminated Land and Groundwater Covering Report for the North London Reinforcement Project ('the Project') as required by Schedule 3, Requirement 11: Contaminated Land and Groundwater of The National Grid (North London Reinforcement) Development Consent Order 2014 ('the DCO').

1.1.3 Requirement 11: Contaminated Land and Groundwater of the DCO is as follows:

(1) No stage of the authorised development shall commence until a written scheme applicable to that stage, to deal with the contamination of any land, including groundwater, within the Order limits which is likely to cause significant harm to persons or pollution of controlled waters or the environment has, after consultation with the Environment Agency, been submitted to and approved by the relevant planning authority.

(2) Each scheme submitted under requirement 11(1) shall include an investigation and assessment plan and relevant reports, prepared by a specialist consultant approved by the relevant planning authority in consultation with the Environment Agency, to identify the extent of any contamination and the remedial measures to be taken to render the land fit for its intended purpose, together with a management plan which sets out immediate and long-term remedial measures with respect to any contaminants found to be remaining on the site. The plan shall include a scheme of post-remedial monitoring, as necessary to demonstrate that the remediation works have been carried out appropriately and site remediation criteria have been met.

(3) Remedial measures must be carried out in general accordance with the scheme approved in accordance with requirement 11(1) unless otherwise agreed with the relevant planning authority. Where provided for in the scheme, post-remedial monitoring must be carried out to demonstrate that the remediation works have been carried out appropriately, and the site remediation criteria have been met.

1.1.4 This document has been submitted for approval to London Borough of Haringey as the relevant planning authority(ies) for the Project to discharge Requirement 11 for Stage 5h. The appendices attached to this report are those relevant to the planning authority submitted to.

1.1.5 This document represents the Contaminated Land and Groundwater Covering Report. Site-specific assessments are appended to this report.

1.2 Overview of the Project

1.2.1 The DCO was made by the Secretary of State for Energy and Climate Change for the Project on 16 April 2014 and came into force on 7 May 2014. The DCO

provides powers to National Grid to carry out the Project, which comprises of the replacement of the existing 275kV overhead line (OHL) with a 400kV OHL from Waltham Cross substation in Epping Forest, through Enfield, and then to Tottenham substation in Haringey. The DCO also contains powers to carry out associated works to the substations at Waltham Cross, Brimsdown and Tottenham.

- 1.2.2 The Project falls within the administrative boundaries of, Epping Forest District Council, Enfield Council, the London Borough of Waltham Forest, and the London Borough of Haringey. The Project is also within the administrative boundaries of the Greater London Authority and Essex County Council, though these are not relevant planning authorities in relation to the Project.
- 1.2.3 Consultation has been undertaken with the Environment Agency on 16 March 2026. Therefore, the formal consultation requirements for Requirement 11 have been met.
- 1.2.4
- Existing 275kV route upgrading to 400kV for 14km from the Waltham Cross substation to Tottenham substation. This would comprise of:
 - The existing 275kV conductor cables (wires) to be removed and replaced (i.e. reconducted) with 400kV wires. This would use the existing pylons.
 - An extension to the Waltham Cross substation to provide a new 400kV Gas Insulated Switchgear (GIS) substation and associated OHL entry modifications.
 - The replacement of two 275/132 kV Super Grid Transformers (SGTs) at Brimsdown with two new 400/132kV SGTs, located both inside and partially outside the existing Brimsdown substation boundary, with underground cable connections between these new SGTs and the existing substation.
 - Works to bypass Tottenham substation, including the construction of a new pylon (VC1R) and cable sealing end (CSE) compound south of the Tottenham substation, and the removal of the existing VC1 pylon.
 - Associated works, for example, temporary access roads, highway works temporary construction compounds, scaffolds, work sites and ancillary works.

2 REQUIREMENT CONTEXT

- 2.1.1 The proposed Stage 5h works include the laydown of temporary within the identified the work area or site which is addressed in in the associated site-specific Appendix.

2.2 Requirements for Assessment

- 2.2.1 The Order Limits for the Project extend from Waltham Cross, Brimsdown, and Tottenham Substation, covering key substations (4ZM2, 4ZM1R, 4ZM1, ZBC1A to ZBC44) and the laydown area. It involves multiple local authorities, including Epping Forest District Council, London Borough of Enfield, London Borough of Waltham Forest, and London Borough of Haringey.
- 2.2.2 The aim of this report is to assess the contaminated land risks to the Project at the location of each tower. This covering report will provide a summary of the overall findings of the appended tower specific technical notes.
- 2.2.3 Epping Forest District Council, London Borough of Enfield, London Borough of Waltham Forest and London Borough of Haringey councils in their roles as Lead Local Planning Authority (LPA) are the regulatory authority and statutory consultee for DCO applications in relation to contaminated land and groundwater. As per Paragraph 1.1.4 of this report, the appended technical notes comprise the contaminated land risk assessments undertaken for submission and approved by the relevant planning authority.

2.3 Parameters of the assessment

- 2.3.1 Four versions of this report with supporting site-specific Appendices have been produced to support the Project. Stage 5a will be assessed within a Tier 1 Preliminary Contamination Risk Assessment Report. The table below sets out the scope of the assessment.
- 2.3.2 Towers within each stage of the DCO have been designated as either 'Scoped In' or 'Scoped Out' by Morrison Energy Services (Transmission Networks) Ltd. Arthian understands that 'Scoped Out' towers have been designated as presenting a lower risk and have been 'scoped out' of a requirement for a more substantive risk assessment. Arthian understands that the designation was made following a review of proposed development work and on the basis of no intrusive works being proposed. 'Scoped In' towers have been designated as requiring a more substantive risk assessment as works are understood to potentially involve limited movements of soils to level ground surfaces to facilitate the emplacement of track matting.

Project substage	Scoped in	Scoped out	Total no. of towers	Council Area
Stage 5b – work no 1	ZBC09 Span ZBC03-04	ZBC03 ZBC04	10 (1 scoped in and 9 scoped out), ZBC004 –	Epping Forest District Council

Project substage	Scoped in	Scoped out	Total no. of towers	Council Area
	Span ZBC09-10 ZBC004 – Boat Launch Pad	ZBC05 ZBC06 ZBC07 ZBC08 ZBC10 ZBC11 ZBC12	Boat Launch Pad (scoped in), and two spans (Span ZBC03-04 and ZBC09-10, both scoped in).	
Stage 5d – work no 1 and 8	ZBC15 ZBC16 ZBC17 ZBC18 ZBC19 ZBC20 ZBC21 ZBC22 ZBC23 ZBC24 ZBC25 ZBC26 ZBC27 ZBC37 ZBC38 Span ZBC15-16 Span ZBC16-17	ZBC13 ZBC14 ZBC28 ZBC29 ZBC30 ZBC31 ZBC32 ZBC33 ZBC34 ZBC35 ZBC36	26 (15 scoped in and 11 scoped out) and two spans (Span ZBC15-16 and ZBC16-17, both scoped in)	Enfield Council
Stage 5f – work no 1	ZBC39	ZBC40 ZBC41 ZBC42	4 (1 scoped in and 3 scoped out)	London Borough of Waltham Forest

Project substage	Scoped in	Scoped out	Total no. of towers	Council Area
Stage 5h – work no 1	ZBC43	N/A	1	London Borough of Haringey

2.3.3 This report relates specifically to those work area covered by Stage 5h, within the London Borough of Haringey.

2.3.4 This covering report considers the following policies and guidance:

- Overarching National Policy Statement for Energy (EN-1) (2023);
- National Policy Statement for Renewable Energy Infrastructure (EN-3) (2023);
- National Policy Statement for Electricity Networks Infrastructure (EN-5) (2023);
- National Planning Policy Framework (NPPF) (2024);
- National Planning Practice Guidance (NPPG) (2022);
- Environment Agency, Land Contamination Risk Management, 12 June 2025;
- British Standard (BS) 10175:2011+A2:2017, Investigation of potentially contaminated sites - code of practice;
- CIRIA, Unexploded ordnance (UXO) risk management guide for land-based projects (C785), August 2019.
- British Standards Institution (BSI), Soil Quality – Conceptual site models for potentially contaminated sites, BSI EN ISO 21365:2020;
- CIRIA, Contaminated land risk assessment. A guide to good practice (C552), January 2001; and
- London Borough of Haringey Local Development and Planning Policies.

2.4 Sources of Information

2.4.1 The following sources of information have been reviewed and assessed for the purpose of this assessment:

- British Geological Society (BGS) Interactive Map¹;
- MAGIC Interactive Map²;
- Mining Remediation Authority Interactive Map³;
- UK Health Security Agency Radon Maps⁴;
- EA River Basin Management Plan Interactive Map⁵;
- Natural England MAGIC Maps⁶;and
- Zetica UXO Ltd Interactive Map⁷.

3 METHODOLOGY

3.1.1 Covering Report Scope

The scope for the covering reports is as follows, where relevant:

- Project description; and
- Overview of findings presented in Technical Appendices.

3.1.2 Assessment for Scoped-In Appendices

The level of assessment for the scoped-in Appendices is as follows:

- Site Description and summary of the Site's historical setting;
- Summary of Site environmental setting; and
- Qualitative contamination risk assessment and outline conceptual site model (CSM).

3.1.3 Assessment for Scoped-Out Appendices

The level of assessment for the scoped-out Appendices is as follows:

- Concise summary note for each scoped-out work areas.

3.1.4 A list of scoped-in and scoped-out work areas for each Stage are included in Section 2.3.

3.1.5 A detailed description of the methodology utilised is also included within each Technical Appendix.

4 SUMMARY OF FINDINGS

- 4.1.1 The aim of this covering report is to assess the potential contaminated land and groundwater risk to the Project. A summary of each site / work area within Stage 5h can be found in the site-specific Appendix.
- 4.1.2 Overall, the potential for contaminated land from on-Site sources to pose a significant risk to human health (i.e. end users and off-site users) and property receptors is assessed to be low.
- 4.1.3 The risk to construction workers is considered to be moderate to high should works be undertaken that may expose workers to site soils or groundwater. Appropriate health and safety measures should be implemented as required.
- 4.1.4 Significant on-Site pollutant linkages have been identified with regards to controlled waters receptors, however, Arthian understands that these are to be addressed by remedial actions as set out within AtkinsRéalis reporting. Post construction and post-remediation, the Site is not considered to present a constraint to development from a contaminated land perspective at this stage.
- 4.1.5 A potential off-Site source has been identified to the north of the Site associated with former industrial land uses and observations of hydrocarbon contamination within historic BGS borehole records. It is considered that this source, conjectured to lie up-hydraulic gradient of the Site, has the potential to impact controlled waters. However, characterisation of the shallow groundwater beneath the Site may not be proportionate in the context of the DCO works proposed and as such no works to investigate this risk are recommended at this time.
- 4.1.6 Review of the UXO risk map indicates that Site 43 lies within a moderate bombing risk area, with a strategic bombing target and a UXO find located within 1 km of the Site. Proposed works do not include for the breaking of ground as the track matting is to be placed on existing hardstanding and the reconductoring works themselves are above ground. As such the risk posed by UXO is considered to be low. However, should any work be undertaken that involve the breaking of ground, appropriate UXO Risk Assessments are recommended to further evaluate potential UXO risks at the Site prior to works commencing

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

- 5.1.1 This Technical Covering report should be read in conjunction with the supporting Appendices, which provide a Contaminated Land and Groundwater Assessment for each site / work area included in Stage 5h.
- 5.1.2 Overall, the potential for contaminated land from on-Site sources to pose a risk to human health and property (on-site) is assessed to be low. Risks posed to controlled waters are considered to be high, however, following implementation and regulatory approval of the remedial works proposed by AtkinsRéalis this risk is assumed to reduce. Risks to property (off-site) is assessed to be negligible. Risks to construction workers from contaminated land is assessed to be moderate to high should ground be broken, however, Arthian understands that

proposals do not include for the breaking of ground as part of the reconductoring works.

5.2 Recommendations

- As works do not include for the breaking of ground or disruption, with all proposed track matting to be located on areas of existing hardstanding, the risk posed by UXO is considered to be low. However, as the Site lies within a moderate bombing risk area with a strategic bombing target and a UXO find located within 1 km, should any work be undertaken that involves the breaking of ground, appropriate UXO Risk Assessments are recommended to further evaluate potential UXO risks at the Site prior to works commencing.
- Should there be a material change to the proposed construction at any tower, the risks identified within the relevant technical note should be reconsidered to ensure the conclusions remain suitable and that risks remain equivalent to those considered previously.
- Should further information regarding any tower/Site become known, including the discovery of unexpected ground conditions indicative of unexpected contamination, then a review of the information contained herein, and further assessment, may be required.

Appendix A – ZBC043

¹ <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>

² <https://magic.defra.gov.uk/MagicMap.aspx>

³ <https://datamine-cauk.hub.arcgis.com>

⁴ <https://www.ukradon.org/information/ukmaps>

⁵ England | Catchment Data Explorer

⁶ <https://magic.defra.gov.uk/MagicMap.html>

⁷ <https://zeticauxo.com/guidance/risk-maps/>