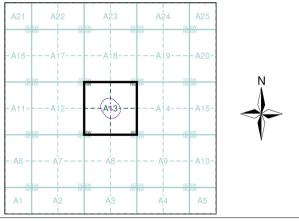




Historical Aerial Photography Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

Order Number: 225359419_1_1
Customer Ref: J19232
National Grid Reference: 525700, 185740

Slice: Site Area (Ha): Search Buffer (m): 0.11

100

Site Details

8, Oakhill Avenue, LONDON, NW3 7RE

Landmark®

0844 844 9952 0844 844 9951

A Landmark Information Group Service v50.0 18-Nov-2019 Page 21 of 21



Express Preliminary UXO Risk Assessment

Client GEA Ltd.

Project 8 Oakhill Avenue, London

Site Address 8 Oakhill Avenue, London, NW3 7RE

29/08/19

Report Reference EP9576-00

Originator CB

1st Line Defence Limited

Unit 3, Maple Park, Essex Road, Hoddesdon,

Herts, EN11 0EX

Tel: +44 (0)1992 245 020 E-mail: <u>info@1stlinedefence.co.uk</u>

Company No: 7717863 VAT No: 128 8833 79

www.1stlinedefence.co.uk

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at 8 Oakhill Avenue, London. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

Date

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.

























Risk Assessment Considera	itions		
Site location and description/current use	The site is located in Hampstead, north-west London. Recent aerial photography indicates the boundary to currently be occupied by three residential properties and their associated gardens. The site is bound to the north by residential properties situated on Heath Drive, to the east by a residential property on Oakhill Avenue and to the west by a residential property on Oakhill Avenue. The site is approximately centred on the OS grid reference: TQ 2569885743.		
Are there any indicators of current/historical military activity on/close to the site?	There are no indicators of current or historical military activity within the boundary or its immediate surrounds. The closest recorded point of historic military activity is in the form of a Z battery situated approximately 1.4km east of the boundary in the vicinity of Lime Avenue.		
What was the pre- and post- WWII history of the site?	Pre- and post-WWII OS mapping from 1934 and 1954-1955 both indicate the boundary to be occupied by three residential properties. No discernible change is noted between the two mapping editions.		
Was the area subject to bombing during WWII?	During WWII, the site was situated within the Metropolitan Borough of Hampstead, which according to Home Office statistics sustained a high density bombing campaign. A borough of 2,265 acres, Hampstead was subject to 321 high explosive (HE) bombs, six parachute mines, 31 oil bombs, five phosphorous bombs, ten V-1 flying bombs and three V2 long-range rockets; a total of 376 incidents and an average of 166 items of ordnance recorded per 1,000 acres. London bomb census mapping did not record any incidents within the boundary or its immediate surrounds; the closest recorded incident is plotted approximately 140m south-east of the boundary.		
Is there any evidence of bomb damage on/close to the site?	No evidence of damage occurring within the boundary could be found at this preliminary stage; post-war OS mapping indicates the structures present within the boundary during WWII to have survived the war intact. LCC bomb damage mapping also shows no damage on site or in the surrounding area.		
To what degree would the site have been subject to access?	The site is anticipated to have been subject to a frequent level of access throughout WWII owing to its occupation by residential properties in an urbanised area.		
To what degree has the site been developed post-WWII?	The site has seen no significant post-war redevelopment; it is still occupied by residential properties and their associated gardens.		
What is the nature and extent of the intrusive works proposed?	The nature and extent of works proposed are understood to include one 15m cable percussion borehole, three boreholes using hand held window sampler to around 5m and seven trial pits.		

























Summary and Conclusions

During WWII, the site was situated within the Metropolitan Borough of Hampstead, which according to Home Office statistics sustained a high density bombing campaign. A borough of 2,265 acres, Hampstead was subject to an average of 166 items of ordnance recorded per 1,000 acres. OS mapping indicates the boundary to be occupied by three residential properties during WWII.

London bomb census mapping did not record any incidents within the boundary or its immediate surrounds; the closest recorded incident is plotted approximately 140m south-east of the boundary. No evidence of damage occurring within the boundary could be found at this preliminary stage; post-war OS mapping indicates the structures present within the boundary during WWII to have survived the war intact, and no damage is shown on site or adjacent in LCC bomb damage mapping.

Recommendations

Preliminary research for this report has not identified any significant or viable risk of contamination from UXO.

Whilst the possibility of contamination cannot be entirely discounted, given the large size and undeveloped nature of the site during the war, the risk from UXO on site is not considered to be elevated above the 'background' level for this area of the UK. It may be prudent to consider UXO safety and awareness briefings for ground personnel working on site. However, it is not considered likely that further research in the form of a Detailed UXO Risk Assessment would result in significantly different conclusions from this preliminary assessment.

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.

It should be noted that although the risk from unexploded ordnance on this site has been assessed as low/minimal, this does not mean there is 'no' risk of encountering UXO. This preliminary report has been undertaken with due diligence, and all reasonable care has been taken to access and analyse relevant historical information. By necessity, when dealing historical evidence, and when making assessments of UXO risk, various assumptions have to be made which we have discussed and justified within this report. Our reports take a common-sense and practical approach to the assessment of UXO risk, and we strive to be reasonable and pragmatic in our conclusions. As referenced, it would be possible to undertake further research into this site, but based on the evidence to hand, this is not deemed strictly necessary, and no reasonably justifiable requirement for proactive on-site mitigation has been identified.

It should however be stressed that if any suspect items are encountered during the proposed works, 1st Line Defence should be contacted for advice/assistance, and to re-assess the risk as necessary. Furthermore, we would recommend that ground personnel are always made aware of the potential for encountering UXO, what to look out for and what to do in the unlikely event that a suspect item is encountered, and that a UXO Risk Management Plan is put together for the proposed works. We would be happy to provide a template and guidance for this – contact us on 01992 245020. Should the scope of works change or additional works be proposed, 1st Line Defence should be contacted to re-evaluate the risk.















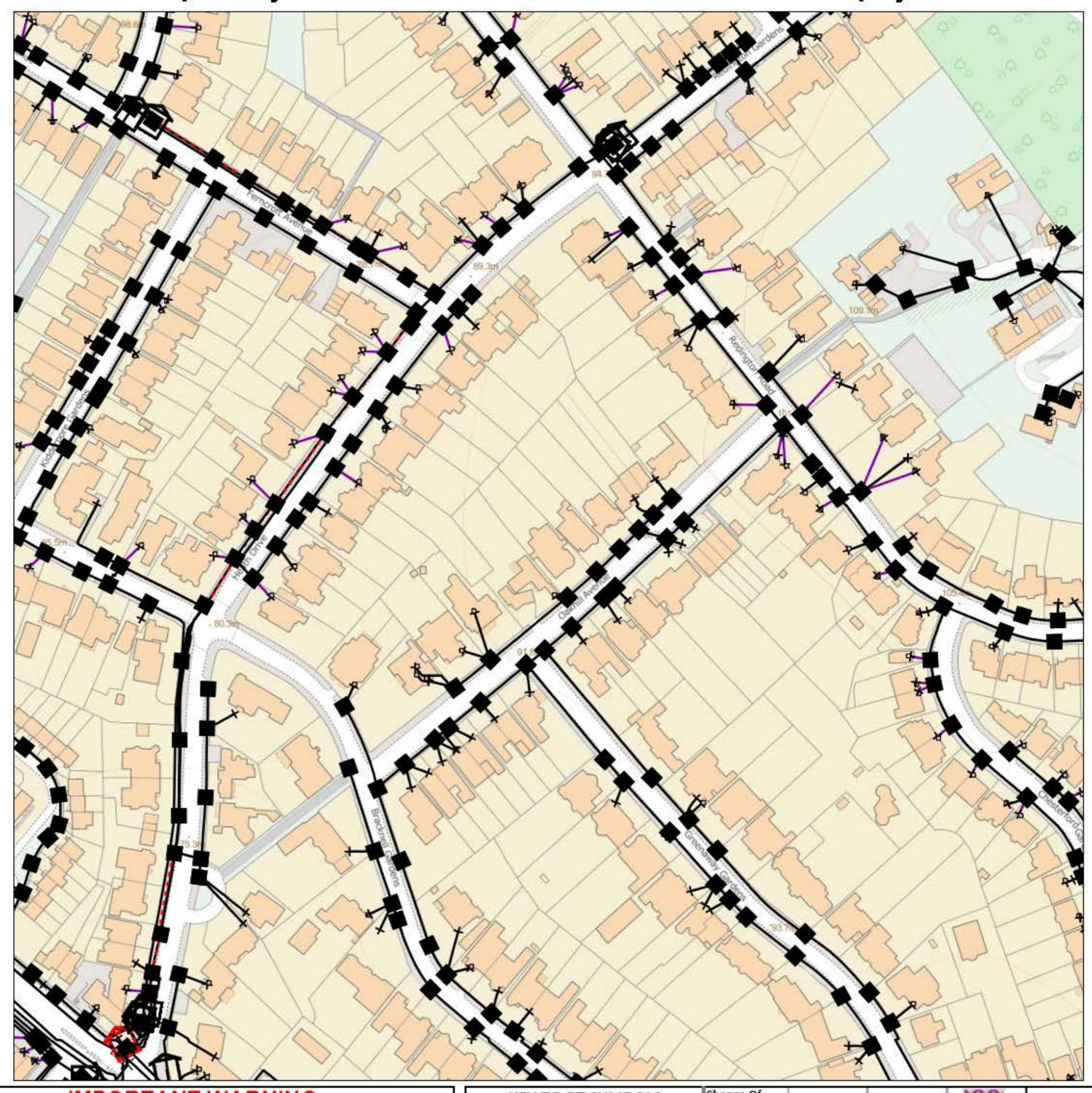








Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED (Office hours: Monday - Friday 08.00 to 17.00) www.openreach.co.uk/cbyd

Accidents happen

If you do damage any Openreach equipment please let us know by calling 0800 023 2023 (opt 1 + opt 1) and we can get it fixed ASAP

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KEY	TO BT SYMI	BOLS	Change Of State	+	Hatchings	XX
	Planned	Live	Split Coupling	×	Built	_
PCP	1	☒	Duct Tee		Planned	
Pole	0	0	Building		Inferred	^
Вох			Kiosk	(K)	Duct	/
Manhole			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
Cabinet	Û	Û				rded. n. Maps are
	Pending Add	In Place	Pending Remove	Not In Use		
Power Cable	HH	HH	A.A.	NN		
Power Duct	**	N N	+40	N/A	1	

BT Ref : WVF09534I

Map Reference: (centre) TQ2570385731 Easting/Northing: (centre) 525703,185731

Issued: 23/08/2019 09:53:50



Registered Office: Newington House 237 Southwark Bridge Road London SE1 6NP

Registered in England and Wales No: 3870728

Company: UK Power Networks (Operations) Limited

Our Ref: 16311702 Your Ref: J19232 - 8 Oakhill Ave

Friday, 23 August 2019

Su Connor Widbury Barn Widbury Hill Ware Hertfordshire SG12 7QE

Dear Su Connor

Thank you for contacting us regarding UK Power Networks equipment at the above site. I have enclosed a copy of our records which show the electrical lines and/or electrical plant. I hope you find the information useful.

I have also enclosed a fact sheet which contains important information regarding the use of our plans and working around our equipment. Safety around our equipment is our number one priority so please ensure you have completed all workplace risk assessments before you begin any works.

Should your excavation affect our Extra High Voltage equipment (6.6 KV, 22 KV, 33 KV or 132 KV), please contact us to obtain a copy of the primary route drawings and associated cross sections.

If you have any further queries do not hesitate to contact us.

Plan Provision 0800 056 5866









Registered Office: Newington House 237 Southwark Bridge Road London SEI 6NP

Registered in England and Wales No: 3870728

Company: UK Power Networks (Operations) Limited

This information is made available to you on the terms set out below. If you do not accept the terms of use set out in this fact sheet please do not use the plans and return them to UK Power Networks.

- 1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
- 2. UK Power Networks does not exclude or limit its liability if it causes the death of any person or causes personal injury to a person where such death or personal injury is caused by its negligence.
- 3. Subject to paragraph 2 UK Power Networks has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise how for any loss, damage, costs, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever.
- 4. The information about UK Power Networks electrical plant and/or electric lines provided to you belongs to and remains the property of UK Power Networks. You must not alter it in any respect.
- 5. The information provided to you about the electrical plant and/or electric lines depicted on the plans may NOT be a complete record of such apparatus belonging to UK Power Networks. The information provided relates to electric lines and/or electrical plant belonging to UK Power Networks that it believes to be present but the plans are not definitive: other electric lines and/or electrical plant may be present and that may or may not belong to UK Power Networks.
- 6. Other apparatus not belonging to UK Power Networks is not shown on the plan. It is your responsibility to make your own enquiries elsewhere to discover whether apparatus belonging to others is present. It would be prudent to assume that other apparatus is present.
- 7. You are responsible for ensuring that the information made available to you is passed to those acting on your behalf and that all such persons are made aware of the contents of this letter.
- 8. Because the information provided to you may not be accurate, you are recommended to ascertain the presence of UK Power Networks electric lines and/or electrical plant by the digging of trial holes. Trial holes should be dug by hand only.

Excavations must be carried out in line with the Health and Safety Executive guidance document HSG 47. We will not undertake this work. A copy of HSG 47 can be obtained from the Health and Safety Executives website.

All electric lines discovered must be considered LIVE and DANGEROUS at all times and must not be cut, resited, suspended, bent or interfered with unless specially authorised by UK Power Networks.

The electric line and electrical plant belonging to UK Power Networks remains so even when made dead and abandoned and any such electric line and/or electrical plant exposed shall be reported to UK Power Networks.

Where your works are likely to affect our electric lines and/or electrical plant an estimate of the price of any protective /diversionary works can be prepared by UK Power Networks Branch at Metropolitan House, Darkes Lane, Potters Bar, Herts., EN6 1AG, telephone no. 0845 2340040









Registered Office: Newington House 237 Southwark Bridge Road London SE1 6NP

Registered in England and Wales No: 3870728

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9 Any work near to any overhead electricity lines must be carried out by you in accordance with the Health and Safety Executive guidance document GS6 and the Electricity at Work Regulations.

The GS6 Recommendations may be purchased from HSE Books or downloaded from the Energy Networks Association's website.

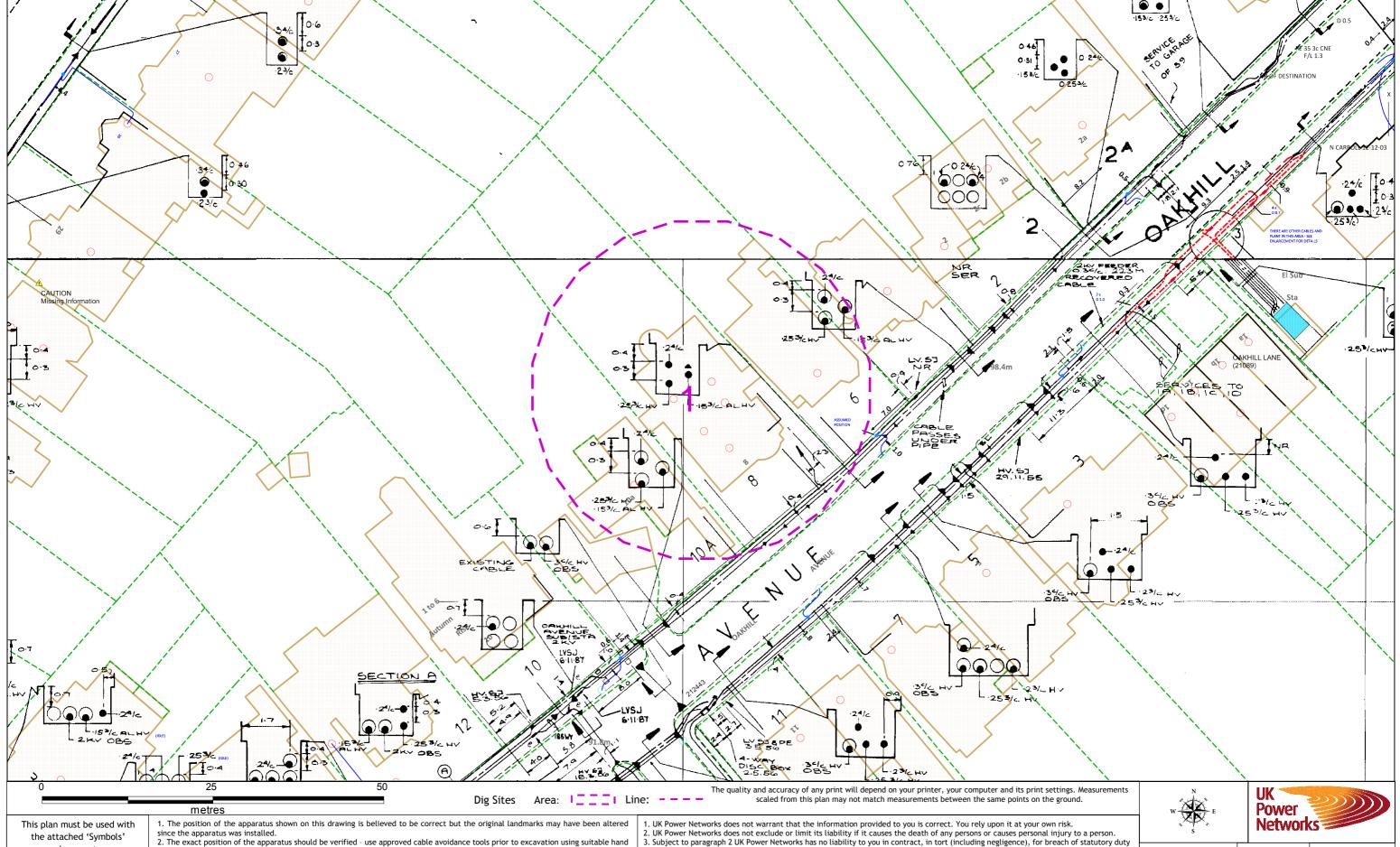
If given a reasonable period of prior notice UK Power Networks will attend on site without charge to advise how and where "goal posts" should be erected. If you wish to use this service, in the first instance please telephone: 0845 6014516 between 08:30 and 17:00 Monday to Friday.

- 10. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.
- 11. If in carrying out work on land in, on, under or over which is installed an electric line and/or electrical plant that belongs to UK Power Networks you and/or anyone working on your behalf damages (however slightly) that apparatus you must inform immediately UK Power Networks by our emergency 24 hour three digit telephone number 105 providing;
 - your name, address and telephone number;
 - the date, time and place at which such damage was caused;
 - a description of the electric line and/or electrical plant to which damage was caused;
 - the name of the person whom it appears to you is responsible for that damage;
 - the nature of the damage.
- 12. The expression "UK Power Networks" includes UK Power Networks (EPN) plc, UK Power Networks (LPN) plc, UK Power Networks (SEPN) plc, UK Power Networks and any of their successors and predecessors in title.









document

Date Requested: 23/08/2019 Job Reference: 16311702 Site Location: 525654 185694 Requested by:

Mrs Su Connor Your Scheme/Reference: J19232 -Oakhill Ave Scale: 1:500 (When plotted at A3)

tools.

3. It is essential that trial holes are carefully made avoiding the use of mechanical tools or picks until the exact location of all the

cables have been determined. 4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc. 5. All cables must be treated as being live unless proved otherwise by UK Power Networks.

- 6. The information proved must be given to all people working near UK Power Networks plant and equipment. Do not use plans more than 3 months after the issue date for excavation purposes.
- 7. Please be aware that electric cables/lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.
- or otherwise for any loss, damage, cost, claims, demands, or expenses that you or any third party may suffer or incur as a result of using the information provided whether for physical damage to property or for any economic loss (including without limitation loss of profit, loss of opportunity, loss of savings, loss of goodwill, loss of business, loss of use) or any special or consequential loss or damage whatsoever. 4. This plan has been provided to you on the basis of the terms of use set out in the covering letter that accompanies this plan. If you do

not accept and/or do not understand the terms of use set out in the covering letter you must not use the plan and must return it to the sender of the letter.

5. You are responsible for the security of the information provided to you. It must not be given, sold or made available upon payment of a fee to a third party.

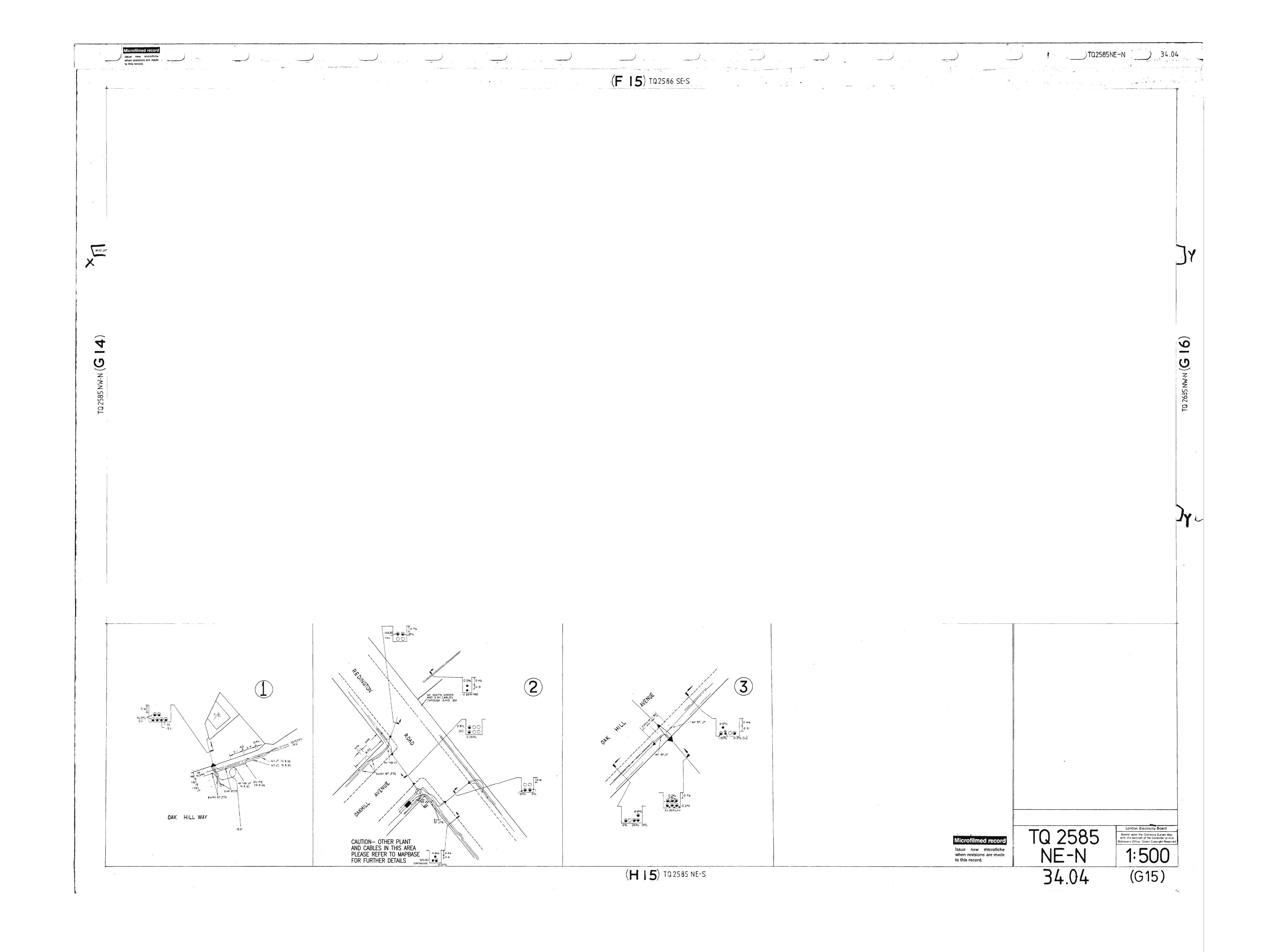
IF IN DOUBT - ASK! PHONE 0800 056 5866 EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY



ALWAYS LOOK UP BEFORE YOU START WORK Refer to HSE Guidance note GS6

Maps produced at 1:2500 scale are Geo-Schematics which show LV mains cables and overhead lines (in some cases all voltages). Prior to carrying out excavations you must refer to the 1:500 records to determine the location of all known underground plant and equipment.

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NetWork Records NetMAP Symbols Booklet - London

This symbol booklet is intended as a general guide only - some local variations of these symbols may be found.

Version 1.2

Released October 2010

Always check with your local Network Records office or the UK Power Networks server to ensure that you are using the most up to date copy of this booklet. Tel: 08000 565866

Index:-

Page no:	Contents:
1	Guidance notes.
2	The area covered by this guide.
3	Scenery.
4	Scenery (UK Power Networks use only-boxed red)
7	Primary distribution cables (EHV).
8	Secondary distribution cables (LV/HV).
9	Cable terminology.
10	Cable size abbreviations.
11	Cable ducts.
12	Other NetMAP symbols.
15	Services.
17	Symbols used in cross sections.
19	Abbreviations used in cross sections.
20	Typical plan and cross section representations: All areas: NetMAP/vector.
	All areas: composite raster style 1.
	Ex-Western area and Holborn: main and ways.
	The City of London: single line. Finsbury and Shoreditch: multi-single line style 1.
	Ex-North Eastern area: HV/LV.
	Ex-North Eastern area: multi-single line style 2.
00	Ex-North Eastern area: composite raster style 2.
23	Regional NetMAP anomalies - general overview.
24	Region 1: ex-Western area.
25	Region 2: ex-Northern area.
27	Region 3: ex-North eastern area.
29	Region 4: ex-South Eastern area.
30	Region 5: ex Southern area.

Guidance notes.

Important notice:

If you do not understand the NetMAP record that you are using, please contact UK Power Networks Network Records for guidance

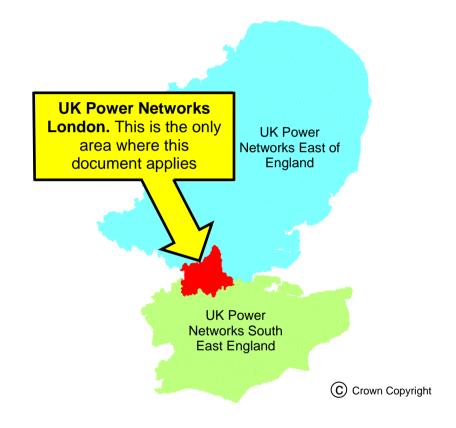
Tel: 08000 565866.

- The position of apparatus shown on NetMAP is believed to be correct, but the original landmarks may have altered since the apparatus was installed.
- It must be assumed that there is at least one service to each property, lamp column, street sign etc. A separate record may be available.
- When excavations are to be carried out near Extra High Voltage (EHV) cables, further details must be obtained before commencement of work.
- Third party cables are not usually shown.
- When two or more maps are supplied for the same area, the maps must be read in conjunction with each other and with this symbol booklet.
- All LV cables are assumed to be 4 core, and all HV cables assumed to be 3 core unless otherwise stated.
- All Imperial cable sizes are assumed to be copper and all metric cable sizes are assumed to be aluminium – unless otherwise stated.



Plan Provision Team Fore Hamlet Ipswich Suffolk IP3 8AA Tel: 08000 565866

The area covered by this guide:



Please see the anomalies map at the end of this safety booklet for greater map area detail, and a breakdown of the more significant anomalies within the London area.

	Scenery	
NetMAP system	Scanned image	Description
TUNNEL NOT APPLICABLE		100 metre Ordnance Survey grid line (on 0/S based maps only) Property fence line Building line Kerb line Kerb line on majority of ways & mains maps Cable tunnel or subway Borough or City boundary and UK Power Networks boundary UK Power Networks or
		UK Power Networks or Electrical boundary

Scenery for UK Power Networks use only - boxed in red				
NetMAP system	Scanned image	Description		
Inset Network – Contact xxxx IDNO for further information	Not applicable	Area of inset network - not the asset of UK Power Networks (only visible to UK Power Networks and their immediate contractors)		
illomator.	Not applicable	Proposed Cross Rail route (only visible to of UK Power Networks and their immediate contractors)		
	Not applicable	High pressure pipelines in the general vicinity (only visible to of UK Power Networks and their immediate contractors)		
not carry out any excavation without products pipeline route in the ger	out consent from the relevant agency -	staff and their immediate contractors. Do legally protected high pressure petroleum co.uk for contacts and guidance. Pipeline burs, contact our Control Centre.		
	Not applicable	Water - surface water (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Water - Source Protection Zone 1 (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Water - Source Protection Zone 2 (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Water - Source Protection Zone 3 (only visible to UK Power Networks and their immediate contractors)		
section continued on next page				

Scenery for UK Power Networks use only - boxed in red				
NetMAP system	Scanned image	Description		
	Not applicable	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Historical - Parks and Gardens (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Historical - Areas of Archaeological Potential (AAP) (only visible to UK Power Networks and their Immediate contractors)		
	Not applicable	Nature - Ramsar Wetlands of International Importance (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Nature - Special Area of Conservation (SAC) (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Nature - Special Protected Area (SPA) (only visible UK Power Networks and their immediate contractors)		
	Not applicable	Nature - Site of Special and Scientific Interest (SSSI) (only visible to UK Power Networks and their immediate contractors)		
section continued on next page				

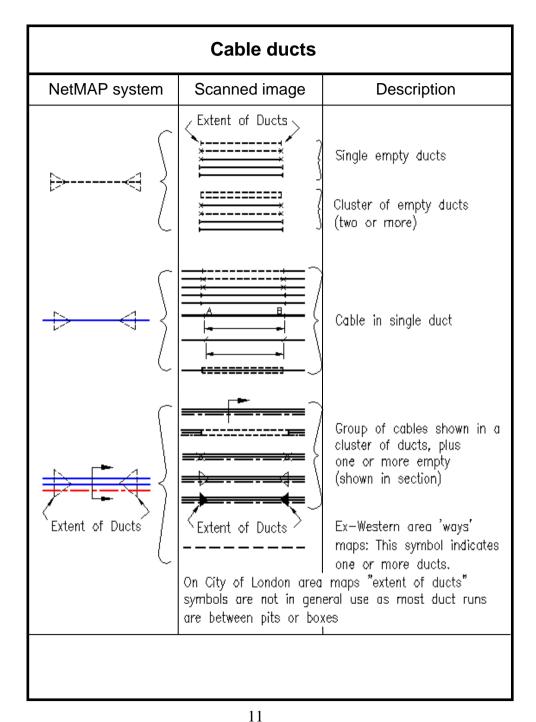
Scenery for UK Power Networks use only - boxed in red				
NetMAP system	Scanned image	Description		
	Not applicable	Nature - Local Nature Reserve (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Nature - National Nature Reserve (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Nature - Area of Outstanding Natural Beauty (AONB) (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Nature - National Park (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Fluid filled cables - very high sensitivity (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Fluid filled cables - high sensitivity (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Fluid filled cables - medium sensitivity (only visible to UK Power Networks and their immediate contractors)		
	Not applicable	Fluid filled cables - low sensitivity (only visible to UK Power Networks and their immediate contractors)		

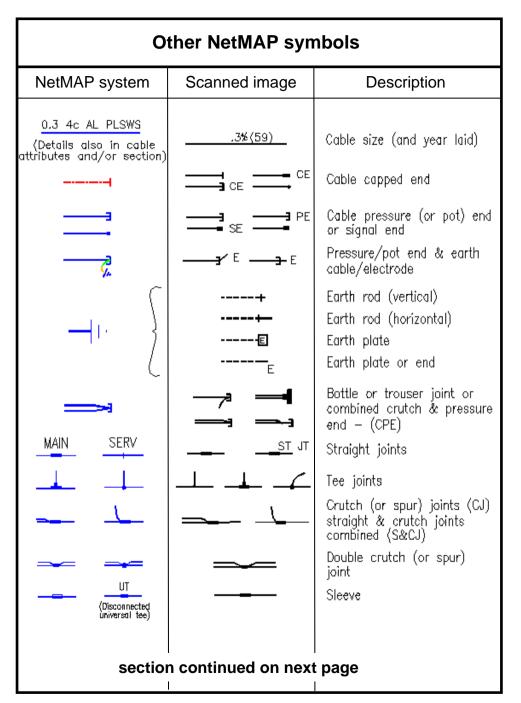
Primary distribution cables			
NetMAP system	Scanned image	Description	
EHY CABLE	——EHV Coble Route 259 Not applicable ——s——s——s——s	UK Power Networks route (11,000 , 22,000 to 132,000 volts) Oil/gas cable stop Part of UK Power Networks cable route where cover is less than normal	

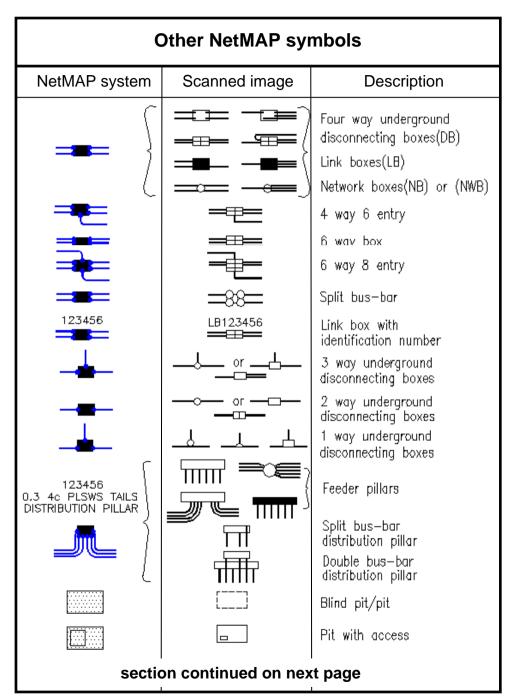
Secondary distribution cables				
NetMAP system	Scanned image	Description		
(20kV) (11kV) (6.6kV)	.3 (AL) % .15 % .3 (AL) % .3 (AL) % .185 % .0225 % Not applicable	HV cable (up to 20kV) 3 phase LV cable (230V or 400/230V) 1 or 2 phase LV cable (230V or 400/230V) Pilot or Telephone cable, often not shown in plan if running with other cables Fibre—optic cable Earth cable HV or LV cable in duct Duct route(s) not containing		
	}	Duct route(s) not containing live cables		

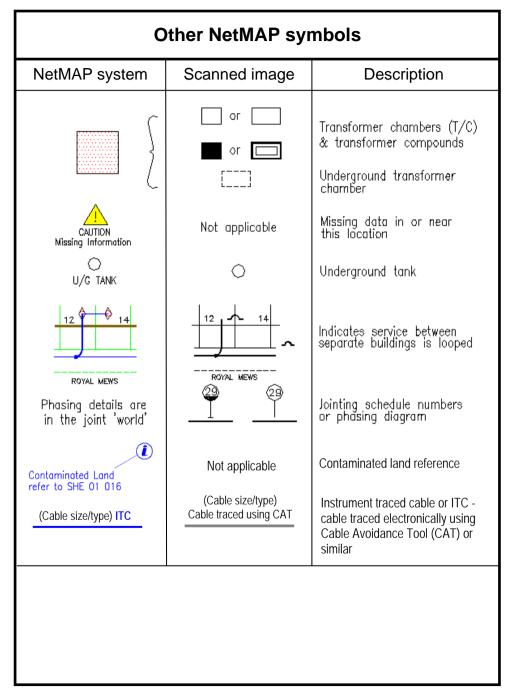
Cable terminology				
NetMAP system	Scanned image	Description		
PL PLS PLST or PLSW PLSTS PLSWS PLSW PLS PLST or PLSW PLST PLST PLSW AI Cu WV CS PVC EPR XLPE SOL ax cx	PL PLS PLA PLTS PLDT PLWS PLBW LC & H LC & BA LC & BA DSTA STA SWA AI Cu WV CS PVC EPR XLPE SOLIDAL TRIPLEX TRIPLEX	Paper Lead Paper Lead Served Paper Lead Served Paper Lead Steel Tape Served Paper Lead Double Tape Paper Lead Steel Wire Served Paper Lead Bright Wire Lead Covered & Hessian Lead Covered & Armoured Lead Covered & Bright Armoured Double steel tape armoured Steel Tape Armoured Steel Wire Armoured Aluminium Copper Waveconal Consac Polyvinyl Chloride Ethylene Propylene Rubber Cross Linked Polyethylene Solid Aluminium Triplex (aluminium) Triplex (copper)		

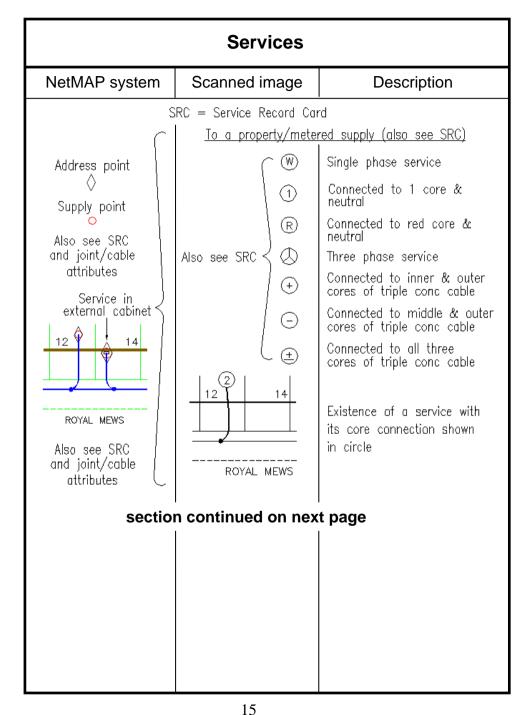
Cable size abbreviations				
NetMAP system	Scanned image	Description		
1c c/c t/c 4c 3c CNE	% % % or T/cc % % (см)	Single core. Concentric cores Triple concentric cores Four cores Three cores and concentric neutral — not of the Waveconal type		
2c s/c 3c DC P Pr	% (or Tw) %c %c DC P	Two cores (or twin) Split concentric cores Three cores Direct current Pilot Number of telephone pairs		

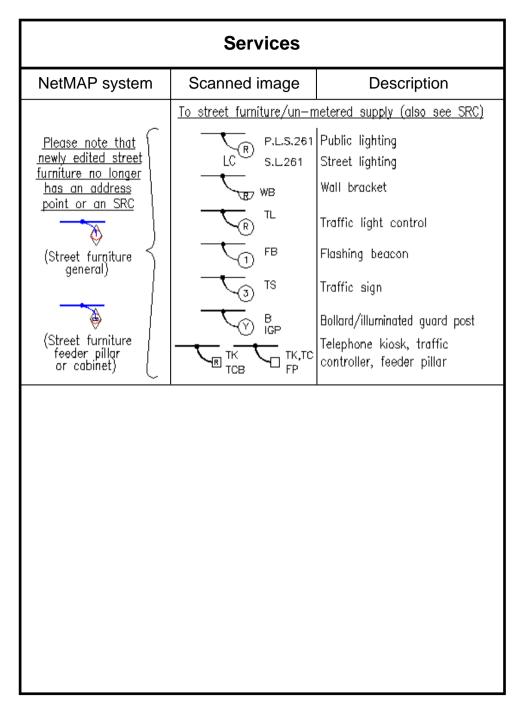












Symbols used in cross sections			
NetMAP system		Scanned image	Description
•		• •	Cable laid direct
•		● ●	Cable laid in duct
\otimes		Ø 8	Blocked duct (sometimes used for unidentified cables)
0		0 0	Single earthenware duct
○ 2½" S		0	Single steel pipe
			Square cable duct
00		00	Group of circular ducts
		88	Group of circular ducts (Sykes)
			Group of square ducts (Doulton)
	(□°¹□ ↔	Cable trough
∇	}	(000)	Bitumen casing (Crompton)
		(· · · ·)	Bitumen filled iron trough (Trunks)
8		8	Bitumen casing (Tri-case)
	sectio	n continued on nex	kt page

NetMAP system Scanned image Description	Abbreviations used in cross sections			
F.P or F or F.D ASB or A ASbestos P S.P or S C.I or C or C.I.P WI WI F or F.D PRD PRD Left blank — means NR E.V F.P or F or F.D ASbestos Plastic or pitch fibre Steel Cast iron Wrought iron pipe F or F.D Fibre duct Plastic Rigiduct Plastic Rigiduct D.N.K or D:NR N.R or N.R E.V.P or E.V Everite pipe	NetMAP system	Scanned image	Description	
N/A 3/62 or NOV 79 Date cable laid N/A-destination now only shown in cable attribute ABCD etc Please note: Ducts are assumed to be 4"/100mm earthenware unless otherwise stated	F A P S C WI F PRD Left blank — means NR E.V T/T N/A N/A—destination now only	F.P or F or F.D ASB or A P S.P or S C.I or C or C.I.P W.I F or F.D PRD D.N.K or D:NR N.R or N.R E.V.P or E.V T/T 3/62 or NOV 79 ABCD etc Please note: Ducts are assumed t	Fibre duct Asbestos Plastic or pitch fibre Steel Cast iron Wrought iron pipe Fibre duct Plastic Rigiduct Depth not known No record Everite pipe Tape Tile Date cable laid HV cable destination (See section sheet HV ref)	

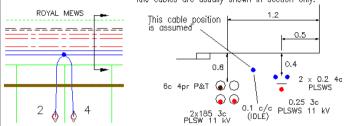
Typical plan and cross section representations

Multi-line composite NetMAP/vector representation

All areas – drawn/redrawn using NetMAP GIS

Cables shown in cross section viewed in direction of arrow.

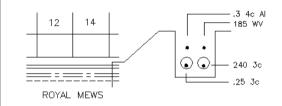
Idle cables are usually shown in section only.



Applies to all composite vector records in both shaded and unshaded areas of the anomalies map.

Multi-line representation - general composite raster (style 1) All areas

All cables are shown on plan and represented in section. Sections may be shown in plan view or on a supplementary sheet.



Applies to all composite raster records within the unshaded areas of the anomalies map.

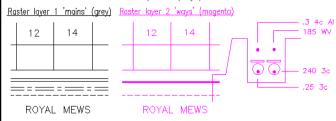
Can also be found in some shaded areas — in particular the ex—North Eastern shaded areas

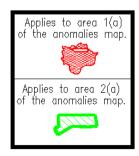
Main and ways representation – dual layer raster

Ex Western area Holborn and parts of Ex-South Eastern Area only

20

All cables are shown on plan and represented in cross section on a separate (ways) sheet.



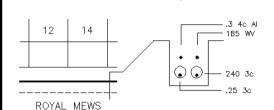


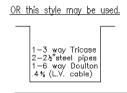
Typical plan and cross section representations

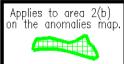
Single line representation - raster or vector data The City of London only

All cables are shown as a single line in plan.

Sections may be written and not drawn.



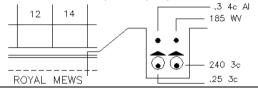


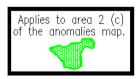


Multi-single line representation general (style 1)

Finsbury and Shoreditch only

Only the top cables in a vertical cable run are shown in the plan view. See the example below. Note that the two lower cables that are in ducts (in this instance), are not shown in plan. Therefore cross sections are particularly important, as each line represents one or more cables.





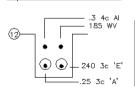
HV and LV map representation – dual layer raster Ex-North Eastern area only

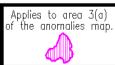
HV and LV cables are shown on separate raster layers. These layers MUST be read in conjunction with each other. Sections are shown on a combined supplementary section sheet in numerical sequence.

Raster layer 1 HV (red) Raster layer 2 LV (blue) Separate raster section sheet







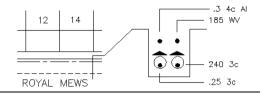


Typical plan and cross section representations

Multi-single line representation general (style 2)

Ex-North Eastern area only

In this area each voltage (HV and LV) is represented as an individual line. For example, three HV cables and four LV cables in the same run will be indicated by a single HV line and a single LV line. Therefore cross sections are particularly important, as each line represents one or more cables of that voltage.

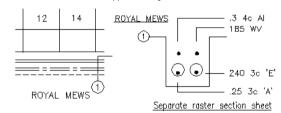




Multi-line representation - composite raster (style 2)

Ex North Eastern area only

All cables are individually shown in plan.
Sections are shown on a supplementary section sheet and recorded under the relevant road name.





Important note regarding sections:

It does not follow that if the number of cables shown in the cross section have been located, that all live cables have been found. You may have found an unrecorded cable, or a cable belonging to another authority.

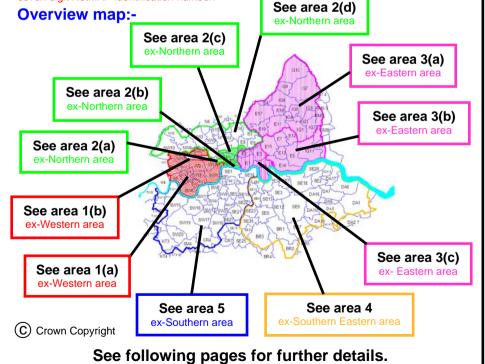
Regional NetMAP Anomalies - general overview:

The following pages explain the various major map style anomalies found within the London area. These styles are a legacy from the five individual London Electricity areas which were again formed from seventeen separately organised LEB districts. Areas with significant anomalies are shown in the following pages as cross-hatched areas. Areas with standard composite vector and raster layer information are shown as un-hatched areas.

Cautionary note: - any region or sub-region, either shaded or un-shaded, may contain some local anomalies not mentioned in the following pages - if in doubt, please contact the UK Power Networks Plan Provision team on telephone number 08701 963797.

All regions (1-5) will contain recently created composite vector (NetMAP/AutoCAD) data.

Recent work created using the NetMAP system and previously created using the AutoCAD system (as opposed to raster/scanned data) are recorded in the composite vector style shown on the UK Power Networks London area symbol sheet - see the first example on page 18 of this document. Recent data will be indicated by the existence of multi-coloured cables on the NetMAP system, but this may not be reflected on printed matter produced with a black and white printer. AutoCAD data looks similar to the coloured NetMAP data, but does not hold any cable 'attributes' when selected using the NetMAP system. These cables will be represented individually (multi-line representation). New NetMAP cross sections may be accessed electronically on the NetMAP system and are presented in printed format accompanied by a seven digit NetMAP identification number.



Region 1 ex-Western area

This region includes Westminster, Kensington, Chelsea, Hammersmith and Fulham. The region is covered by two map layer systems - region 1(a) mains and ways dual layer raster, and region 1(b) composite raster. The following explains this in greater detail.

Region 1(a) (hatched)



Mains and ways representation:

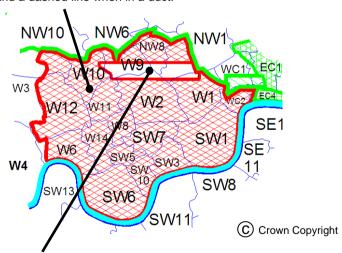
This system consists of two maps layers for the same area.

- The mains map shows all cable routes.
- The ways map shows pipe and duct routes with cross sections.

There are some enlargement sheets, cross sections and jointing details. EHV routes are shown on either the mains or the wavs map.

It is important that all these maps are read in conjunction with each other.

Caution: - It is also important to note that the kerb line detail on these maps is a dash/dot line, which on the majority of UK Power Networks Central (London) records would refer to an HV cable route. HV cables are shown as a solid line when laid direct and a dashed line when in a duct.



Region 1(b) (un-hatched)

Composite single layer (style 1) maps:

Whenever possible, all the information is on one map layer. There are some enlargement sheets in the Aberdeen Place area. Please note that the kerb line is shown as a dotted line and HV cables are shown as dash/dot lines.

Region 2 ex-Northern area

This region includes Islington, Hackney, the City of London and parts of Brent, Camden and Ealing. The region is covered by four map layer systems - Region 2(a) - mains and ways dual layer raster (Holborn area), Region 2(b) - single line representation (City of London), Region 2(c) - multi-single line representation (Finsbury and Shoreditch) and Region 2(d) - composite multi-line maps (all other areas). This following explains this in greater detail.

Region 2(a) (hatched)

Covers part of WC1 and WC2 (Holborn).

Mains and ways representation:

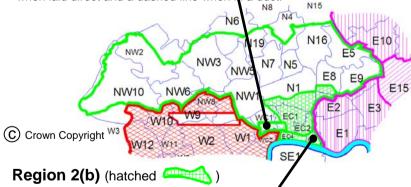
This system consists of two maps layers for the same area.

- i) The mains map shows all cable routes.
- ii) The ways map shows pipe and duct routes with cross sections.

Where needed, extra sheets have been added for enlargements, cross sections and jointing details. EHV routes are shown on the mains map layer.

It is important that all these maps are read in conjunction with each other.

Caution: - It is also important to note that the kerb line detail on these maps is a dash/dot line, which on the majority of UK Power Networks Central (London) records would refer to an HV cable route. HV cables are shown as a solid line when laid direct and a dashed line when in a duct.



Covers parts of postal areas EC1, EC2 and all of postal areas EC3 and EC4.

Single line representation maps:

Whenever possible, all the information is on one map layer .One line can represent any number of cables or ducts. It is therefore very important to use cross sections. In some cross sections details may be written and not drawn. In complex and redrawn areas, some detail may be drawn using multi-line representation. There are some enlargement sheets.

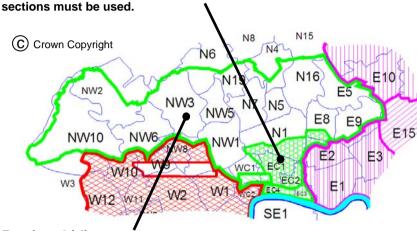
Region 2(c) (hatched)



Covers parts of postal areas EC1, EC2, N1, E1, E2 and E8.

Multi-single line representation (style 1) maps:

Whenever possible, all the information is on one map layer. When cables lay immediately above/below each other, it is shown as a single line. For example if six cables lay three on three, only three lines would indicate the six cables. If the cables were laid flat, six separate lines would be shown. It is therefore important not to assume that the lines drawn indicate the number of cables, at any point. **Cross**



Region 2(d) (un-hatched)

Covers all other postal areas in this region

Composite single layer (style 1) maps:

Whenever possible, all the information is on one map layer. There are some enlargement sheets.

Region 3 ex-North Eastern area

This region includes Tower Hamlets, Newham, Redbridge, Waltham Forest, Loughton (Epping) and Barking and Dagenham. This region is covered by three mapping systems.

Region 3(a) (hatched

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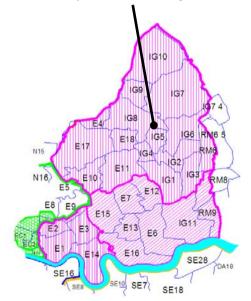
Separate HV and LV representation maps:

This system consists of two maps layers for the same area.

- i) The HV map layer showing HV cables and duct routes.
- The LV map layer showing LV cables and duct routes.

Cross sections for both HV and LV cable routes are shown on a separate sheet. EHV cable routes are shown on the HV map layer.

It is important that all these maps are read in conjunction with each other.

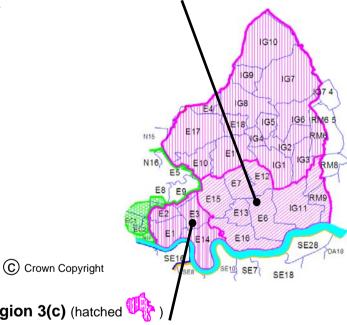


Region 3(b) (hatched



A combination of composite single layer (style 1) and multi-single line (style 2):

Whenever possible, all the information is on one map layer. There are some enlargement sheets. There is a combination of map styles used in this area. Some areas may be conventional multi-line line representation with many areas of multisingle line representation. In the multi-line areas each (live) cable is shown individually in plan. In the multi-single line map areas, there is a single line for each voltage type, with a single HV line and a single LV line representing more than one cable run of each voltage (when applicable). Therefore a cable run containing three HV cable and four LV cables will be represented by one HV line and one LV



Region 3(c) (hatched

A combination of composite single layer (style 2) and multi-single line (style 2):

Whenever possible, all the information is on one map layer. There are some enlargement sheets. In this area (postal code areas E1, E2, E3, E14 and part of E9), the cross sections are listed under each road name. It is therefore extremely important that you have the correct cross sections for the road you are working in.

There is a combination of map styles used in this area. Most areas are composite single layer (style 2) with some areas of multi-single line representation, as described in region 3(b).

Region 4 ex-South Eastern area

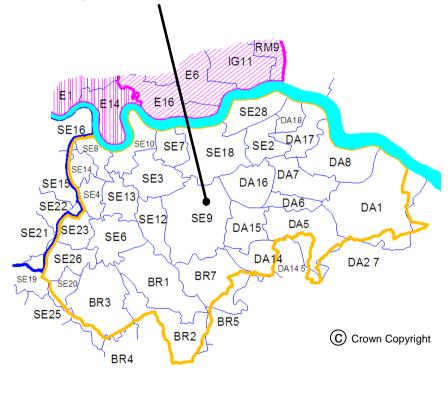
This region includes Lewisham, Greenwich, Bromley, Bexley and Dartford.

Nearly all maps are drawn in one style – single layer composite raster/vector.

Region 4 (un-hatched)

Composite single layer (style 1) with a small number of mains and ways representation maps :

Mainly composite maps - whenever possible, all the information is on one map layer. There are some enlargement and cross section sheets. Some maps do not show single phase services unless they are long and deviating. There are however some maps drawn using the mains and ways style. These are rare, but please be aware that they exist.



29

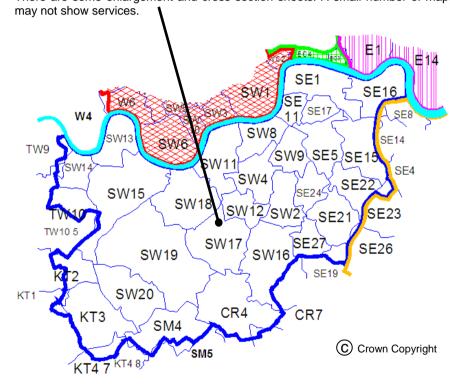
Region 5 ex-Southern area

This region includes Southwark, Lambeth, Wandsworth, Merton, Kingston upon Thames and Richmond upon Thames. All maps are drawn to one style - single layer composite raster/vector.

Region 5 (un-hatched)

Composite single layer (style 1) maps:

Composite maps - whenever possible, all the information is on one map layer. There are some enlargement and cross section sheets. A small number of maps may not show services.











THINK . . .

Every year people are killed or seriously injured in incidents involving underground electricity cables.



Underground cables carry a powerful electrical charge which can be conducted through machinery and equipment with fatal consequences. Anyone working close to live underground cables should take time to read this simple safety leaflet and identify the precautions they should be taking.

WHO IS AT RISK?

People in construction, demolition, agriculture, infrastructure or anywhere else where excavation is taking place. That is why it is vital everyone working on or visiting a working site is fully aware of the hazards and the steps that must be taken to avoid them.

6 HOW INCIDENTS HAPPEN

Sadly, accidents where excavators, breakers or other tools make contact with power cables are not uncommon. Where equipment or machinery is used near underground cables the risk must be considered and controlled in the interests of everyone.

THINK AHEAD

Get the basics right. Familiarise yourself with the site. Mark the route of underground cables running across the site on all plans circulated to staff. Find out if the work could be carried out away from the cables, or avoided all together.

UK Power Networks is committed to safety and actively encourages anyone undertaking work to contact us in advance for advice and free cable locating maps.

These will help you avoid our underground cables during your work, which is vital for your safety as well as ensuring we can provide a reliable supply of electricity.

For free maps and advice call **0800 056 5866** or write to:

Plan Provision

UK Power Networks

Fore Hamlet

Inswich

IP38AA

plans@ukpowernetworks.co.uk

We can advise you on what steps to take if essential work is necessary close to underground cables and help ensure safe working practises are implemented.

Good management reduces the risk of accidents. With proper planning and control, workers should not come into contact with underground cables.

If excavation work forms a part of your day-to-day activities obtain a copy of the Health & Safety Executive's Guidance Note "Avoiding Danger from Underground Services" HSG47, which is free to download from the HSE's website - www.hse.gov.uk/pubns/priced/hsg47.pdf

WHAT TO DO

- Have cable drawings and records on site, know how to read them
 and check them before starting work. Be aware that not all cables may
 be shown on the records.
- Look around for anything in the vicinity that would have an electricity service, such as street lights, CCTV cameras, phone boxes, etc. as well as the more obvious things like houses and industrial units.
- Always use a cable avoidance tool (CAT) to survey the entire site before digging commences. Once found, mark cable positions with spray paint or similar. Do not forget to use encroachment lines as well.
- **Dig trial holes**, by hand, alongside the indicated route of the cables(s).
- Use spades and shovels with insulated handles in preference to forks and picks.
- Make sure everyone on site, including visitors, understand the risks.
- If there is a cable encased in concrete contact UK Power Networks to agree a safe method of work. This may mean making the cable dead.
- Before demolishing a building make sure that supplies are disconnected, preferably well clear of the work area.
 For guidance on how to arrange a disconnection visit www.ukpowernetworks.co.uk – Our Services
- Have the emergency contact telephone number easily available on site.



WHAT NOT TO DO

- Never allow anyone near a damaged or suspected damaged cable or joint.
- Do not handle or attempt to alter the position of a cable or joint.
- Never assume that cables run in straight lines, they may be deflected around underground obstacles.
- Do not use mechanical excavator or powered digging tool within the vicinity of known cables.
- Never knock a road pin, or forcibly throw a spiked digging tool into the ground, without checking what is below the surface.

(7) IF A CABLE IS DAMAGED

Notify UK Power Networks immediately:

London 0800 028 0247 East of England 0800 783 8838 South East 0800 783 8866

Call the emergency services if anyone is injured. Anyone who has received an electrical shock should go to hospital as damage may have occurred to the heart.

Always **treat the cable(s) as live** even if they are not sparking. Cables can be re-energised at any time without warning.

Never remove anything that is stuck in a cable.

Keep everyone well away from the area of the damage.

Do NOT attempt to remove anything that is in contact with the cable.



DANGER OF DEATH

YOU DIG

Call the network operator

0800 587 3243

www.ukpowernetworks.co.uk

If you are unsure of your network operator then please visit www.energynetworks.org





Su Connor Geotechnical & Environmental Associates Widbury Barn Widbury Hill Ware Herts **SG12 7QE**

Date: 28/08/2019

Our Ref: NL_GE4A_3WWX_1006978

Your Ref: J19232

RE: Scheduled Works, 8 Oakhill Ave

Thank you for your enquiry which was received on 23/08/2019. Please note this response and any attached map(s) are valid for 28 days.

An assessment has been carried out with respect to Cadent Gas Limited, National Grid Electricity Transmission plc's and National Grid Gas Transmission plc's apparatus. Please note it does not cover the items listed in the section "Your Responsibilities and Obligations", including gas service pipes and related apparatus. For details of Network areas please see the Cadent website (http://cadentgas.com/Digging-safely/Dial-beforeyou-dig) or the enclosed documentation.

Are My Works Affected?

Following further consultation and re-assessment of your enquiry, Cadent and/or National Grid has identified that it has apparatus in the vicinity of your enquiry, but if your works are undertaken in the appropriate manner this apparatus should not be affected by your activities as specified.

Please note that there may also be gas service(s) or recently installed apparatus present. Further detail can be found in the "Essential Guidance" document (http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx? id=8589934982).

Please proceed with extreme caution, and with reference to the guidance and plans attached in this response.

Plant Protection Cadent Block 1; Floor 1 Brick Kiln Street Hinckley LE10 0NA

E-mail: plantprotection@cadentgas.com

Telephone: +44 (0)800 688588

National Gas Emergency Number: 0800 111 999*

National Grid Electricity Emergency Number: 0800 40 40 90*

* Available 24 hours, 7 days/week. Calls may be recorded and monitored.

www.cadentgas.com

The details contained within this enquiry are valid for 28 days. If the scheduled work is not completed within this time, or should the location, date or nature of your activities change, you must submit another enquiry.

Your Responsibilities and Obligations

It is your responsibility to ensure that the information you have submitted is accurate and that all relevant documents including links are provided to all persons (either direct labour or contractors) working for you near Cadent and/or National Grid's apparatus, e.g. as contained within the Construction (Design and Management) Regulations.

This assessment solely relates to Cadent Gas Limited, National Grid Electricity Transmission plc (NGET) and National Grid Gas Transmission plc (NGGT) and apparatus. This assessment does **NOT** include:

- Cadent and/or National Grid's legal interest (easements or wayleaves) in the land which restricts
 activity in proximity to Cadent and/or National Grid's assets in private land. You must obtain details of
 any such restrictions from the landowner in the first instance and if in doubt contact Plant Protection.
- Gas service pipes and related apparatus
- Recently installed apparatus
- Apparatus owned by other organisations, e.g. other gas distribution operators, local electricity companies, other utilities, etc.

It is **YOUR** responsibility to take into account whether the items listed above may be present and if they could be affected by your proposed activities. Further "Essential Guidance" in respect of these items can be found on either the National Grid or Cadent website.

This communication does not constitute any formal agreement or consent for any proposed development work; either generally or with regard to Cadent and/or National Grid's easements or wayleaves nor any planning or building regulations applications.

Cadent Gas Limited, NGGT and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements.

If you require further assistance please contact the Plant Protection team via e-mail (<u>click here</u>) or via the contact details at the top of this response.

Yours faithfully

Plant Protection Team

ASSESSMENT

Affected Apparatus

The apparatus that has been identified as being in the vicinity of your proposed works is:

• Low or Medium pressure (below 2 bar) gas pipes and associated equipment. (As a result it is highly likely that there are gas services and associated apparatus in the vicinity)

Requirements

BEFORE carrying out any work you must:

- Carefully read these requirements including the attached guidance documents and maps showing the location of apparatus.
- Contact the landowner and ensure any proposed works in private land do not infringe Cadent and/or National Grid's legal rights (i.e. easements or wayleaves). If the works are in the road or footpath the relevant local authority should be contacted.
- Ensure that all persons, including direct labour and contractors, working for you on or near Cadent and/or National Grid's apparatus follow the requirements of the HSE Guidance Notes HSG47 'Avoiding Danger from Underground Services' and GS6 'Avoidance of danger from overhead electric power lines'. This guidance can be downloaded free of charge at http://www.hse.gov.uk
- In line with the above guidance, verify and establish the actual position of mains, pipes, cables, services and other apparatus on site before any activities are undertaken.

DURING any work you must:

- Ensure that no mechanical excavation takes place above or within 0.5m of the Cadent buried medium and low pressure gas pipes and associated equipment.
- Comply with all guidance relating to general activities and any specific guidance for each asset type as specified in the Guidance Section below.
- Ensure that access to Cadent and/or National Grid apparatus is maintained at all times.
- Prevent the placing of heavy construction plant, equipment, materials or the passage of heavy vehicles over Cadent and/or National Grid apparatus unless specifically agreed with Cadent and/or National Grid in advance.
- Exercise extreme caution if slab (mass) concrete is encountered during excavation works as this may be protecting or supporting Cadent and/or National Grid apparatus.
- Maintain appropriate clearances between gas apparatus and the position of other buried plant.

Please refer to the "General Guidance" or contact the Plant Protection Team for further information regarding the above.

GUIDANCE

Excavating Safely - Avoiding injury when working near gas pipes:

http://www.nationalgrid.com/NR/rdonlyres/2D2EEA97-B213-459C-9A26-18361C6E0B0D/25249/Digsafe_leaflet3e2finalamends061207.pdf

Standard Guidance

Essential Guidance document:

http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589934982

General Guidance document:

http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=35103

Excavating Safely in the vicinity of gas pipes guidance (Credit card):

http://www.nationalgrid.com/NR/rdonlyres/A3D37677-6641-476C-9DDA-E89949052829/44257/ExcavatingSafelyCreditCard.pdf

Excavating Safely in the vicinity of electricity cables guidance (Credit card):

http://www.nationalgrid.com/NR/rdonlyres/35DDEC6D-D754-4BA5-AF3C-D607D05A25C2/44858/ExcavatingSafelyCreditCardelectricitycables.pdf

Copies of all the Guidance Documents can also be downloaded from the National Grid and Cadent websites.