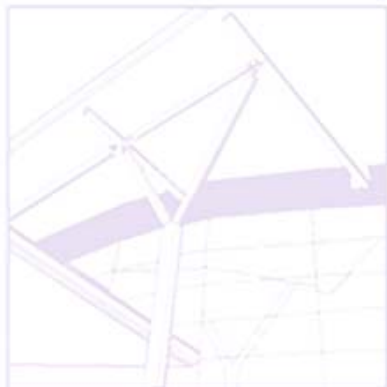
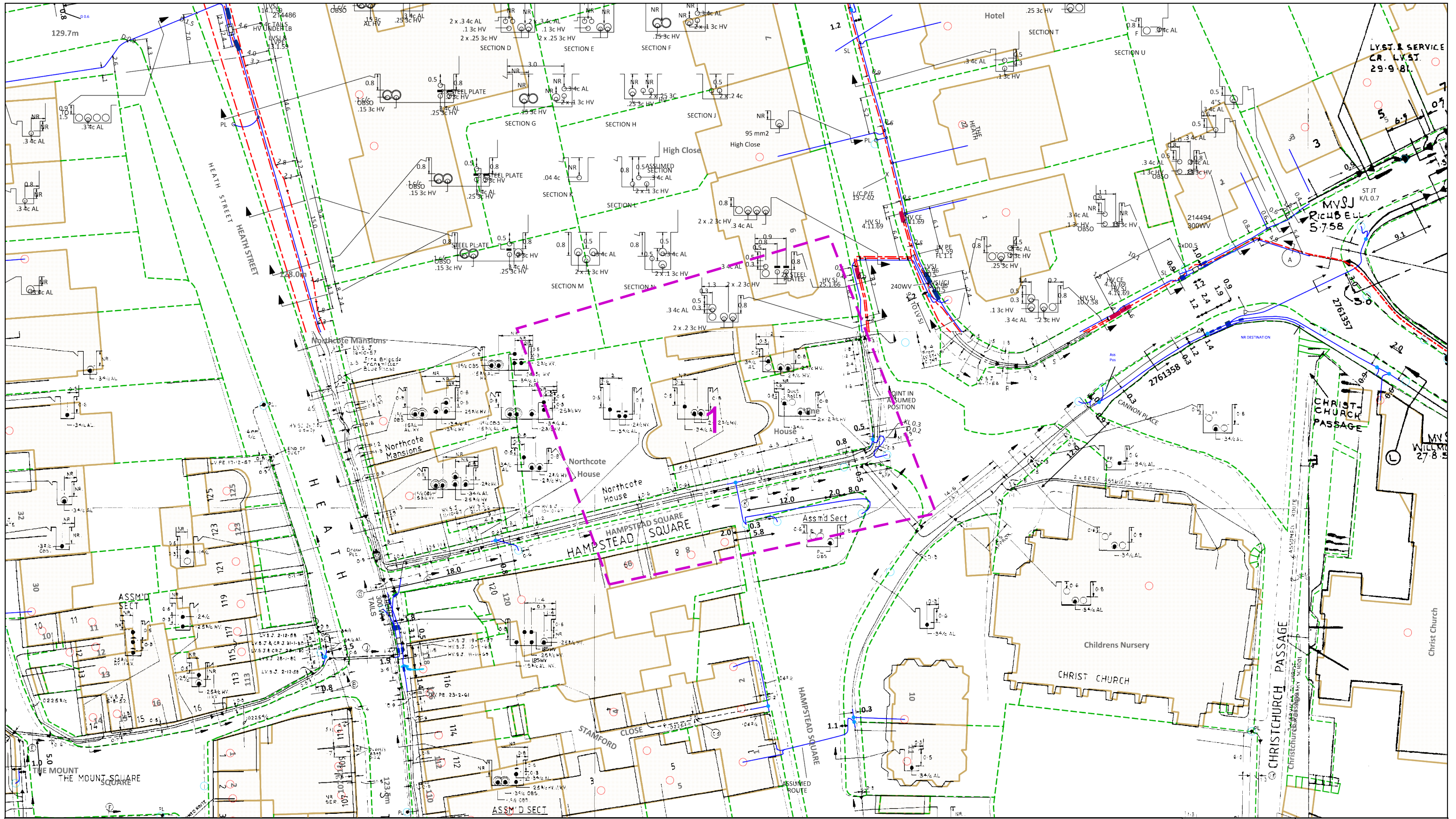


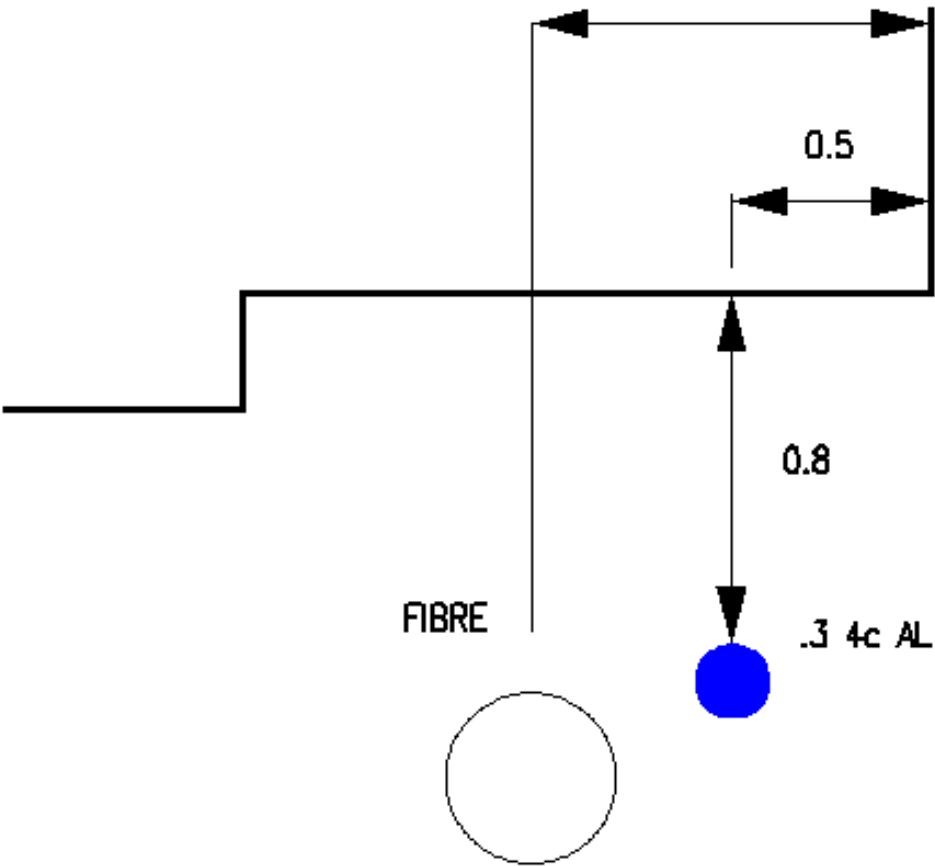
Appendix E : Utilities Searches





<p>This plan must be used with the attached 'Symbols' document.</p> <p>Date Requested: 11/12/2019 Job Reference: 17217995 Site Location: 526369 186077 Requested by: Mr Pawel Rogalewicz Your Scheme/Reference: 191025</p> <p>Scale: 1:500 (When plotted at A3)</p>		<p>1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.</p> <p>2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.</p> <p>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.</p> <p>4. It must be assumed that there is a service cable into each property, lamp column and street sign, etc.</p> <p>5. All cables must be treated as being live unless proved otherwise by UK Power Networks.</p> <p>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.</p> <p>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.</p>	<p>1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.</p> <p>2. UK Power Networks does not exclude or limit its liability if it causes the death of any persons or causes personal injury to a person.</p> <p>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 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.</p> <p>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.</p> <p>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.</p>	<p>IF IN DOUBT - ASK! PHONE 0800 056 5866 EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY</p>	<p>ALWAYS LOOK UP BEFORE YOU START WORK Refer to HSE Guidance note GS6</p>
<p>Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database rights 2019. All rights reserved. Ordnance Survey Licence numbers 100019626, 100019826 and 100019450. Data has been added to the Ordnance Survey base map; all proprietary rights in such additional data are and shall remain the exclusive property of © London Power Networks plc or Eastern Power Networks plc or South Eastern Power Networks plc each being a distribution licensee under section 6(1)(c) of the Electricity Act 1989 for the relevant distribution services area as that term is defined in such licensee's distribution licence. All rights in such data reserved.</p> <p>Plans generated by DigSAFE Pro™ software provided by LinesearchbeforeUdig.</p>					

Cross Section : 2761358 1.2



Cross Section
2761358

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand 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.
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1. UK Power Networks does not warrant that the information provided to you is correct. You rely upon it at your own risk.
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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 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.
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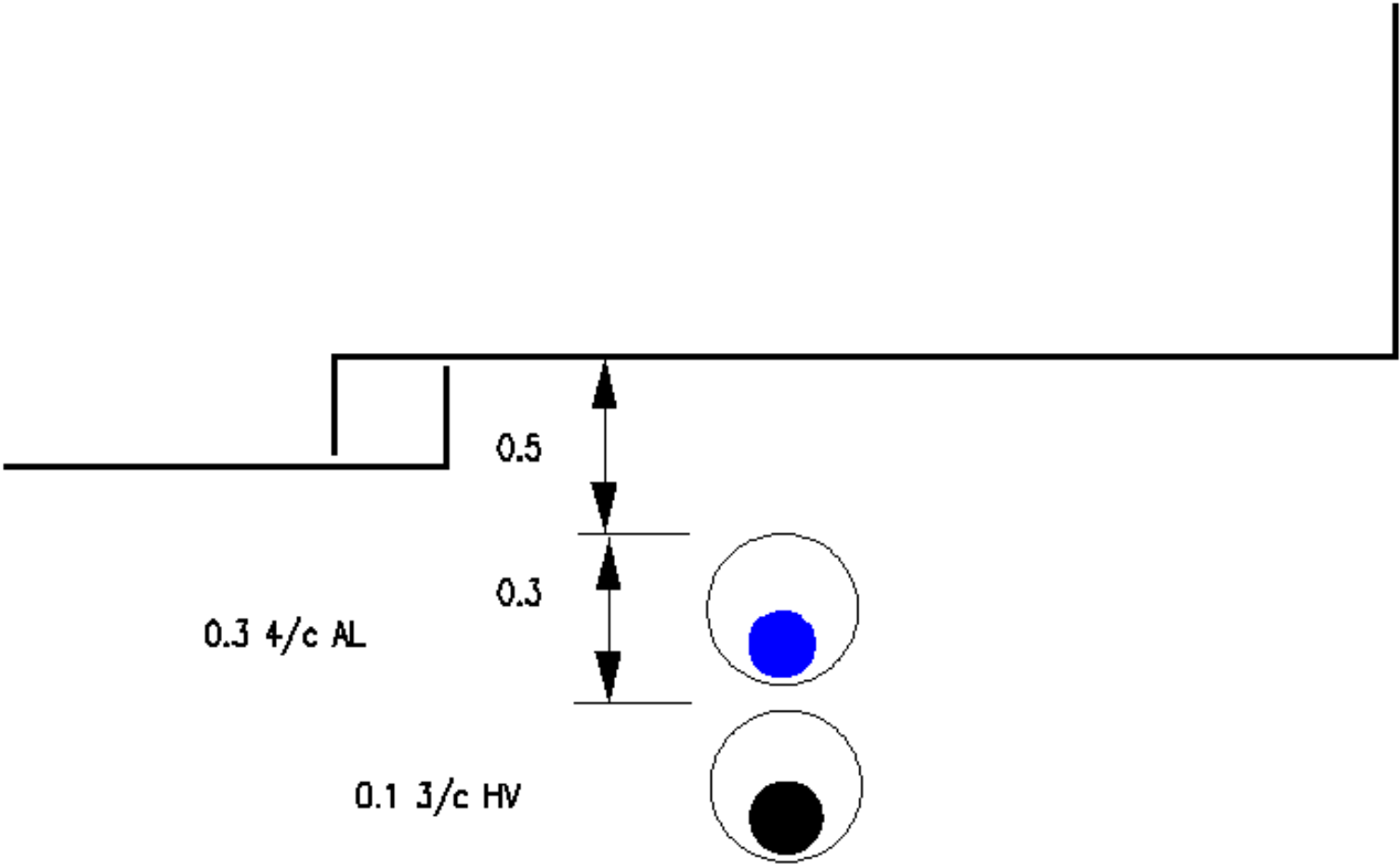
IF IN DOUBT - ASK! PHONE
0800 056 5866
EMERGENCY - If you damage
a cable or line
Phone 0800 783 8838 (24hrs)
URGENTLY



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.

Cross Section : 2752596



Cross Section

2752596

1. The position of the apparatus shown on this drawing is believed to be correct but the original landmarks may have been altered since the apparatus was installed.
2. The exact position of the apparatus should be verified - use approved cable avoidance tools prior to excavation using suitable hand tools.
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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.
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<p>IF IN DOUBT - ASK! PHONE 0800 056 5866 EMERGENCY - If you damage a cable or line Phone 0800 783 8838 (24hrs) URGENTLY</p>	
	<p>ALWAYS LOOK UP BEFORE YOU START WORK Refer to HSE Guidance note GS6</p>
<p>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.</p>	



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: <ul style="list-style-type: none">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.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

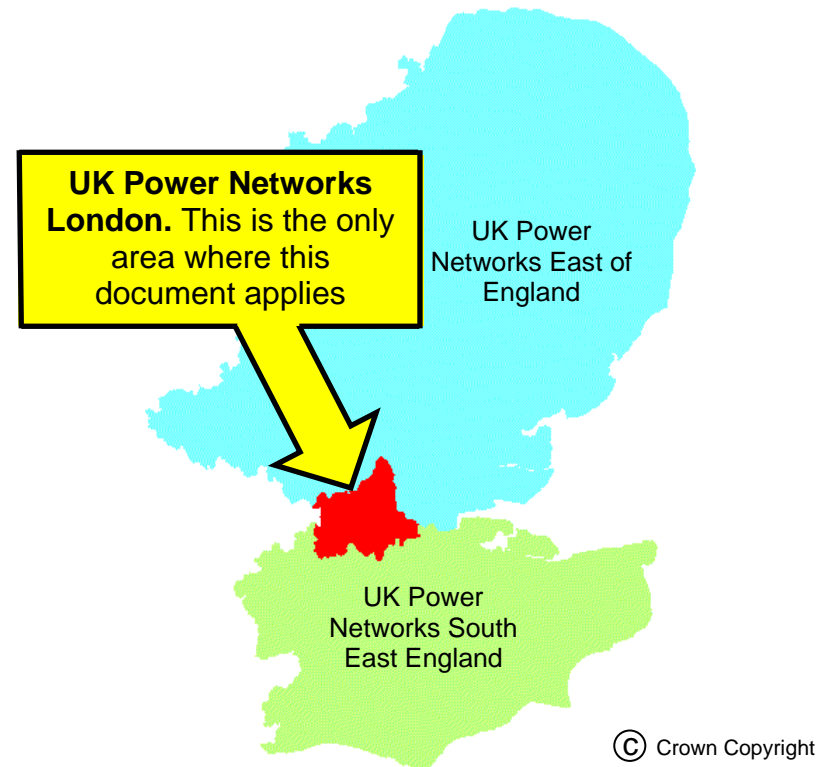
Tel: 08000 565866.

- 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
		100 metre Ordnance Survey grid line (on O/S based maps only)
		Property fence line
		Building line
		Kerb line
		Kerb line on majority of ways & mains maps
		Cable tunnel or subway
NOT APPLICABLE		Borough or City boundary and UK Power Networks boundary
	or 	
		UK Power Networks or Electrical boundary
	or 	








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)
	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)
<p>Note: Pipelines are only viewable on NetMAP by UK Power Networks staff and their immediate contractors. Do not carry out any excavation without consent from the relevant agency - legally protected high pressure petroleum products pipeline route in the general vicinity - consult www.linewatch.co.uk for contacts and guidance. Pipeline contact numbers can also be found on the intranet – out of hours, contact our Control Centre.</p>		
	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)

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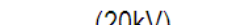
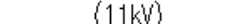
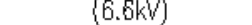







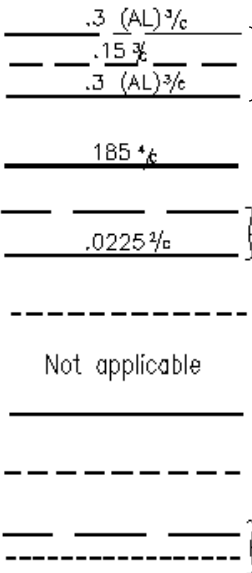
Scenery for UK Power Networks use only - boxed in red		
NetMAP system	Scanned image	Description
	Not applicable	Historical - Scheduled Monuments (only visible to UK Power Networks and their immediate contractors)
	Not applicable	Historical - Parks and Gardens (only visible to UK Power Networks and their 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
 Solid  Gas  Oil  Cable stop  Shallow	 EHV Cable Route 259 Not applicable  Shallow route	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 phase LV cable  1 or 2 phase LV cable  Pilot or Telephone cable  Fibre-optic cable  Earth cable  HV or LV cable in duct  Duct route(s) not containing live cables		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 live cables

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


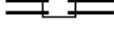

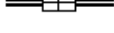







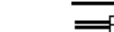


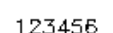
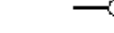

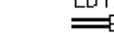





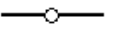



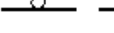
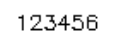

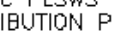
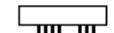
Cable size abbreviations		
NetMAP system	Scanned image	Description
1c	$\frac{1}{c}$	Single core.
c/c	$\frac{9}{c}$	Concentric cores
t/c	$\frac{T}{c}$ or $\frac{T}{cc}$	Triple concentric cores
4c	$\frac{4}{c}$	Four cores
3c CNE	$\frac{3}{c}$ (CNE)	Three cores and concentric neutral – not of the Waveconal type
2c	$\frac{2}{c}$ (or Tw)	Two cores (or twin)
s/c	$\frac{s}{c}$	Split concentric cores
3c	$\frac{3}{c}$	Three cores
DC	DC	Direct current
P	P	Pilot
Pr	Pr	Number of telephone pairs

Cable ducts		
NetMAP system	Scanned image	Description
		Single empty ducts
		Cluster of empty ducts (two or more)
		Cable in single duct
		Group of cables shown in a cluster of ducts, plus one or more empty (shown in section)
		Ex-Western area 'ways' maps: This symbol indicates one or more ducts. On City of London area maps "extent of ducts" symbols are not in general use as most duct runs are between pits or boxes

Other NetMAP symbols		
NetMAP system	Scanned image	Description
<u>0.3 4c AL PLSWS</u> (Details also in cable attributes and/or section)		Cable size (and year laid)
		Cable capped end
		Cable pressure (or pot) end or signal end
		Pressure/pot end & earth cable/electrode
		Earth rod (vertical)
		Earth rod (horizontal)
		Earth plate
		Earth plate or end
		Bottle or trouser joint or combined crutch & pressure end - (CPE)
		Straight joints
		Tee joints
		Crutch (or spur) joints (CJ) straight & crutch joints combined (S&CJ)
		Double crutch (or spur) joint
		Sleeve
		Disconnected universal tee


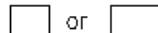

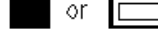









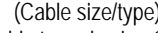
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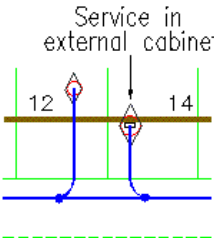
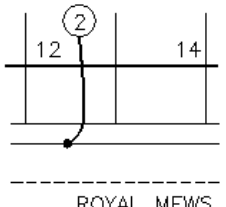
Other NetMAP symbols

NetMAP system	Scanned image	Description
		Four way underground disconnecting boxes(DB)
		Link boxes(LB)
		Network boxes(NB) or (NWB)
		4 way 6 entry
		6 way box
		6 way 8 entry
		Split bus-bar
		Link box with identification number
		3 way underground disconnecting boxes
		2 way underground disconnecting boxes
		1 way underground disconnecting boxes
		Feeder pillars
		Split bus-bar distribution pillar
		Double bus-bar distribution pillar
		Blind pit/pit
		Pit with access

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Other NetMAP symbols









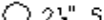













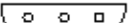
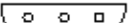


NetMAP system	Scanned image	Description
		Transformer chambers (T/C) & transformer compounds
		Underground transformer chamber
	Not applicable	Missing data in or near this location
		Underground tank
		Indicates service between separate buildings is looped
		Jointing schedule numbers or phasing diagram
	Not applicable	Contaminated land reference
		Instrument traced cable or ITC - cable traced electronically using Cable Avoidance Tool (CAT) or similar

Services		
NetMAP system	Scanned image	Description
<p>SRC = Service Record Card</p> <p>To a property/metered supply (also see SRC)</p> <p>Address point ◇</p> <p>Supply point ○</p> <p>Also see SRC and joint/cable attributes</p> <p>Service in external cabinet</p>  <p>Also see SRC and joint/cable attributes</p>		
	<p>To a property/metered supply (also see SRC)</p> <p>Also see SRC</p> <p>Single phase service</p> <p>Connected to 1 core & neutral</p> <p>Connected to red core & neutral</p> <p>Three phase service</p> <p>Connected to inner & outer cores of triple conc cable</p> <p>Connected to middle & outer cores of triple conc cable</p> <p>Connected to all three cores of triple conc cable</p> 	<p>Existence of a service with its core connection shown in circle</p>

section continued on next page













Services		
NetMAP system	Scanned image	Description
<p>To street furniture/un-metered supply (also see SRC)</p> <p>Please note that newly edited street furniture no longer has an address point or an SRC</p> <p>(Street furniture general)</p> <p>(Street furniture feeder pillar or cabinet)</p>		
	<p>P.L.S.261</p> <p>S.L.261</p> <p>WB</p> <p>TL</p> <p>FB</p> <p>TS</p> <p>B IGP</p> <p>TK TCB</p> <p>TK,TC FP</p>	<p>Public lighting</p> <p>Street lighting</p> <p>Wall bracket</p> <p>Traffic light control</p> <p>Flashing beacon</p> <p>Traffic sign</p> <p>Bollard/illuminated guard post</p> <p>Telephone kiosk, traffic controller, feeder pillar</p>

Symbols used in cross sections

NetMAP system	Scanned image	Description
		Cable laid direct
		Cable laid in duct
		Blocked duct (sometimes used for unidentified cables)
		Single earthenware duct
		Single steel pipe
		Square cable duct
		Group of circular ducts
		Group of circular ducts (Sykes)
		Group of square ducts (Doulton)
		Cable trough
		Bitumen casing (Crompton)
		Bitumen filled iron trough (Trunks)
		Bitumen casing (Tri-case)

section continued on next page

Symbols used in cross sections

NetMAP system	Scanned image	Description
		Protective slab
		Tiles.
		Concrete slabs
		Steel plate
		Plastic tile tape
Timber 		Timber

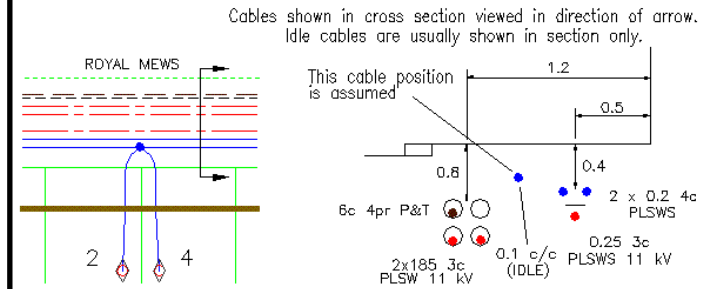
Abbreviations used in cross sections

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

Typical plan and cross section representations

Multi-line composite NetMAP/vector representation

All areas – drawn/redrawn using NetMAP GIS

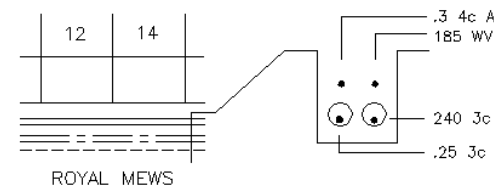


Applies to all composite vector records in both shaded and unshaded areas of the anomalies map.

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.

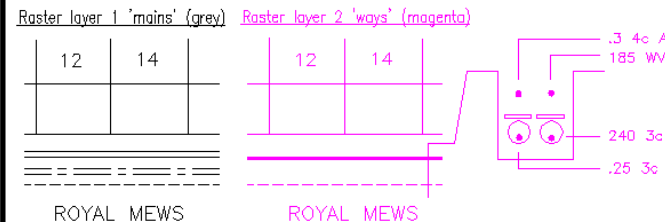


Applies to all composite raster records within the unshaded areas of the anomalies map.
Can also be found in some shaded areas – in particular the ex-North Eastern shaded areas 3 (b) and 3 (c)

Main and ways representation – dual layer raster

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

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



Applies to area 1(a) of the anomalies map.

Applies to area 2(a) of the anomalies map.

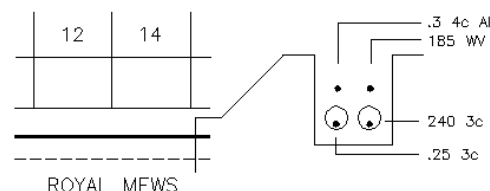
Typical plan and cross section representations

Single line representation - raster or vector data

The City of London only

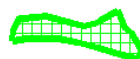
All cables are shown as a single line in plan.
Sections may be written and not drawn.

OR this style may be used.



1-3 way Tricase
2-2½" steel pipes
1-6 way Doulton
4% (L.V. cable)

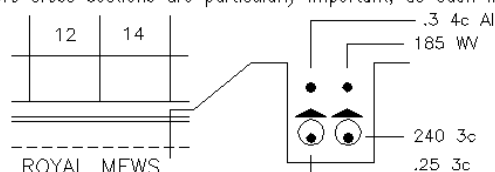
Applies to area 2(b)
on the anomalies map.



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.



Applies to area 2 (c)
of the anomalies map.

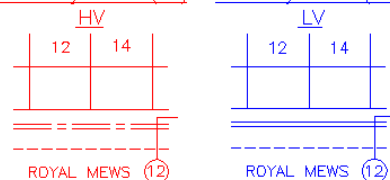


HV and LV map representation – dual layer raster

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



Applies to area 3(a)
of the anomalies map.

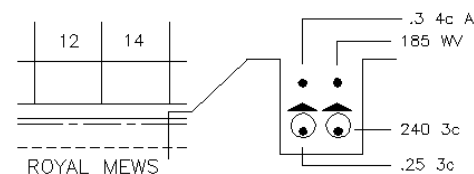


Typical plan and cross section representations

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.



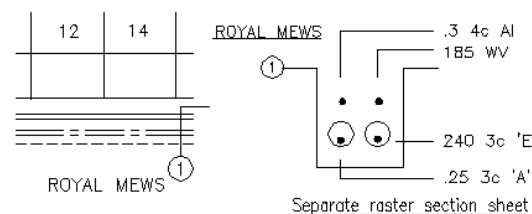
Applies to area 3 (b)
of the anomalies map.



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.



Applies to area 3(c)
of the anomalies map.



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:

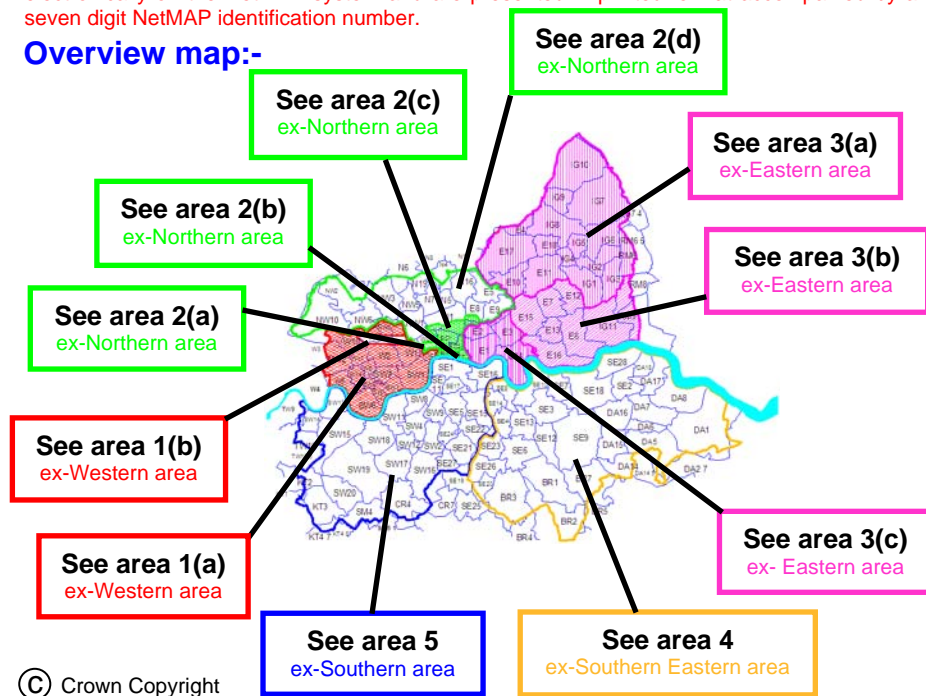
The following pages explain the various major map style anomalies found within the London area. These styles are a legacy from the five individual London Electricity areas which were again formed from seventeen separately organised LEB districts. Areas with significant anomalies are shown in the following 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.

Overview map:-



See following pages for further details.

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:

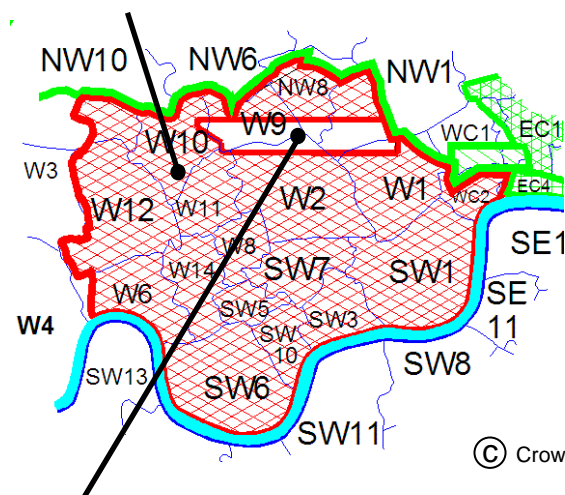
This system consists of two maps layers for the same area.

- 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 ways 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:

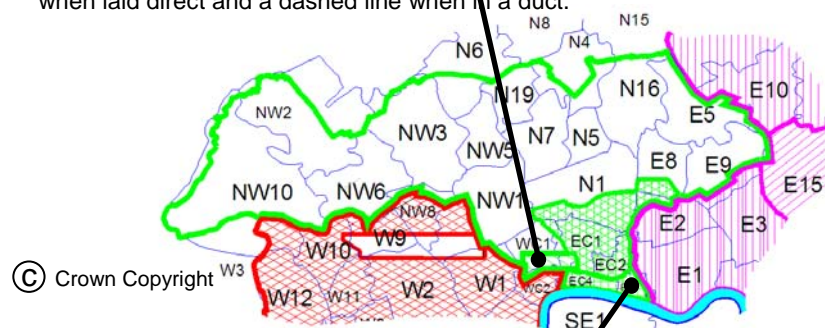
This system consists of two maps layers for the same area.

- 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.



Region 2(b) (hatched)

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.

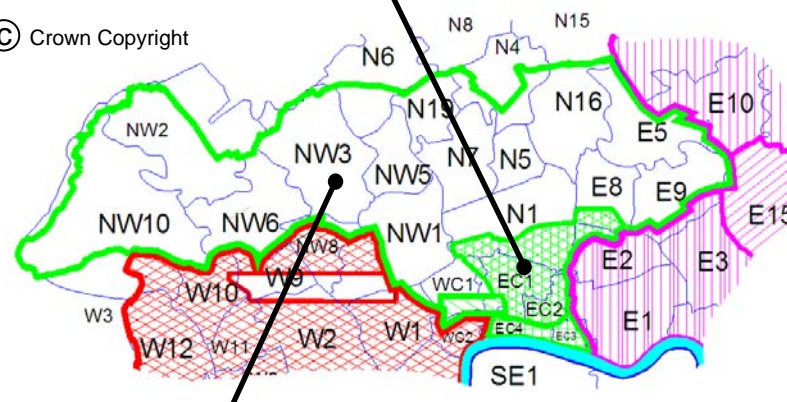
Region 2(c) (hatched)

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 sections must be used.**

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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)

Separate HV and LV representation maps:

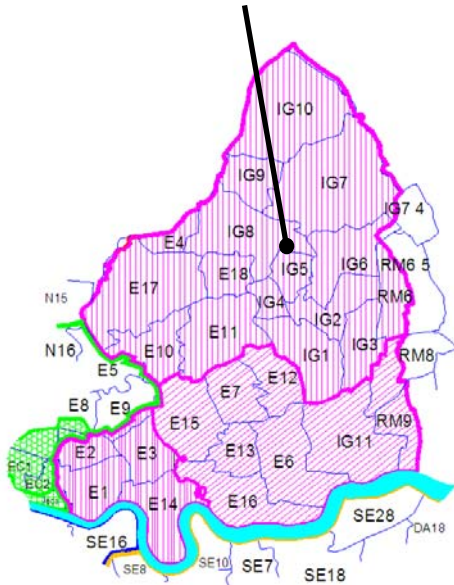
This system consists of two maps layers for the same area.

- 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.

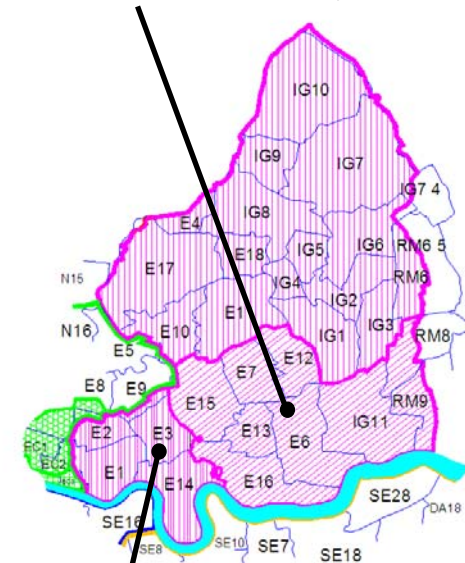


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Region 3(b) (hatched)

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 multi-single 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 line.



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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).

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



- 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.





Think
before you...



DIG UNDER GROUND



THINK . . .

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



THE DANGER

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.



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

Ipswich

IP3 8AA

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.





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.



PLAN IT OUT

**CHECK IT OUT BEFORE
YOU DIG UNDER GROUND**





DANGER OF DEATH

THINK BEFORE
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

UK Power Networks,
Registered office: Newington House, 237 Southwark Bridge Road, London SE1 6NP
Registered in England and Wales No: 3870728

