

TFL Landholdings at Northwood

Utilities Assessment

034233

28 October 2015

Revision 03

Revision	Description	Issued by	Date	Checked
00	First Draft Issue	LH	11/06/2015	NP
01	Second Draft Issue (revised following comments)	NP	14/10/2015	LJ/GP
02	Final Draft Issue (revised following comments)	NP	19/10/2015	LJ
03	Final Issue	NP	28/10/2015	LJ

\\SRV-BATH03\Project Filing\034233 Green Lane, Northwood Station Phase 2\F8 Civils - Infrastructure\03 Reports\Utility Report\151028 LH 034233 Utilities Report 03.docx


This report has been prepared for the sole benefit, use and information of Transport for London for the purposes set out in the report or instructions commissioning it. The liability of Buro Happold Limited in respect of the information contained in the report will not extend to any third party.

author **Nichole Pau**

date **28/10/2015**

approved **Les Johnson**

signature



date **28/10/2015**

..

Contents

1	Introduction	7
1.1	Site description	7
2	Background	8
2.1	Project Proposal	8
3	Utilities Summary	10
3.1	Utilities Affected	10
3.2	Utilities Unaffected	10
4	Utility Diversions	12
4.1	Electricity – UK Power Networks	13
4.2	Gas – National Grid Gas	14
4.3	BT – Telecoms	15
4.4	Instalcom – Telecoms	16
4.5	OFCOM – Mobile Phone Bases	17
4.6	Transport for London – Rail / Surface Transport	18
4.7	London Underground Asset Performance Power – Rail	18
4.8	Affinity Water – Mains	19
4.9	Thames water – Sewer	20
4.10	MBNL – Telecoms	21
4.11	Virgin Media – Telecoms	21
	Appendix A Proposed Development	
	Appendix B UKPN Electricity Plan	
	Appendix C National Grid Gas Plan	
	Appendix D BT Telecoms Plan	
	Appendix E Instalcom Telecoms Plan	
	Appendix F OFCOM Mobile Phone Bases Plan	
	Appendix G Transport for London Plan	
	Appendix H London Underground Asset Power Plans	

Appendix I Affinity Water – Water Mains Plan

Appendix J Thames Water – Sewers Plan

Appendix K MBNL – Telecoms Plan

Appendix L Virgin Media – Telecoms Plan

1 Introduction

This report summaries the utilities in the vicinity of Transport for London (TfL) Landholdings at Northwood, London, HA6 2QB. The report identifies those requiring diversion as a result of the new development.

1.1 Site description

The site is located on the junction of Green Lane (B469) and Eastbury Road within the London Borough of Hillingdon (LBH).

The site comprises land north and south of Green Lane including part of the highway. The area of land north of Green Lane comprises a parade of single storey retail units located over the railway bridge with a two storey adjoining unit on the Corner of Eastbury Road. The northern part of the site is bounded by the Eastbury Surgery to the north; Green Lane to the south; Eastbury Road to the east and the retail units on the bridge to the west.

The majority of the site lies south of Green Lane, in Northwood and comprises the existing London Underground (LU) station and a mix of A-Class uses, residential flats, a light industrial use, dental practice and area of surface car parking. The southern part of the site is bounded by Green Lane to the north; the London Underground compound to the south; the railway line to the east; and the rear boundaries of the Northwood Central Club, St John's United Reformed Church and residential properties fronting Hallowell Road to the west.

Groundwise Searches Limited were employed to carry out a utility search of utilities affected and unaffected by the proposed development.

The following sections list the affected utilities and indicate diversions required.

2 Background

2.1 Project Proposal

The proposed development centres around the application site (the site) with the existing site shown in Figure 2—1. The planning application proposal are, as shown in Figure 2—2 and Figure 2—3.

A hybrid planning application for comprehensive redevelopment of the site comprising full planning permission involving demolition of existing buildings to provide 93 residential units (C3) and associated car parking, 1,440 sq.m retail (A1-A5), a new operational railway station (Sui Generis) with step free access and associated car parking; new bus interchange, and a new piazza. Outline planning consent for up to 34 residential units, car parking (all matters reserved apart from access) and refurbishment works to existing retail units along Station Approach.

Figure 2—1: Location plan, extracted from Google Maps



Figure 2—2: Location plan – application boundaries

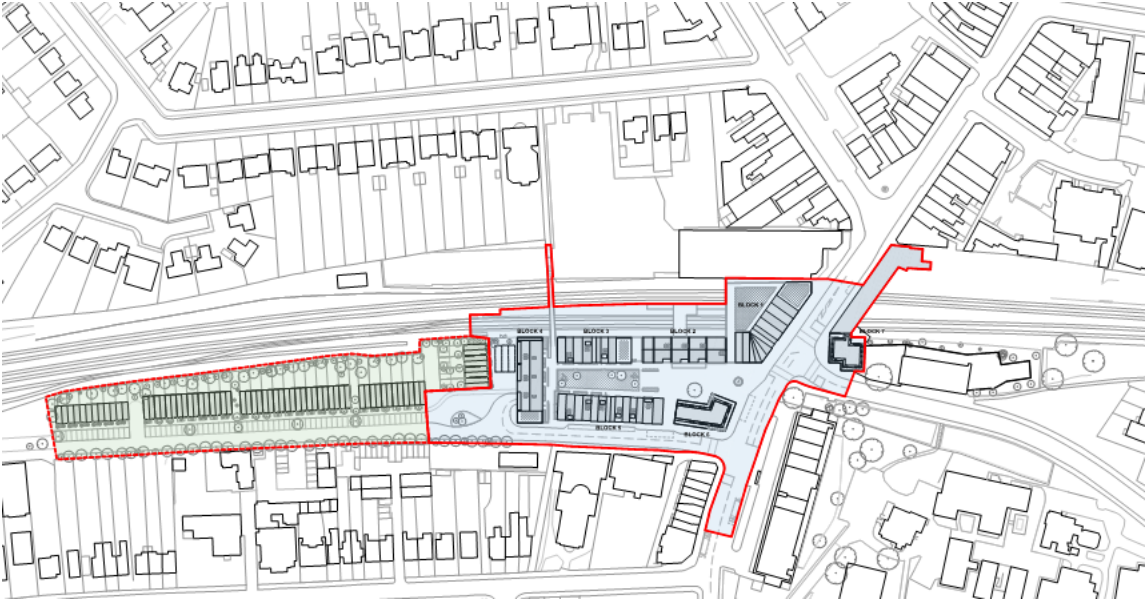
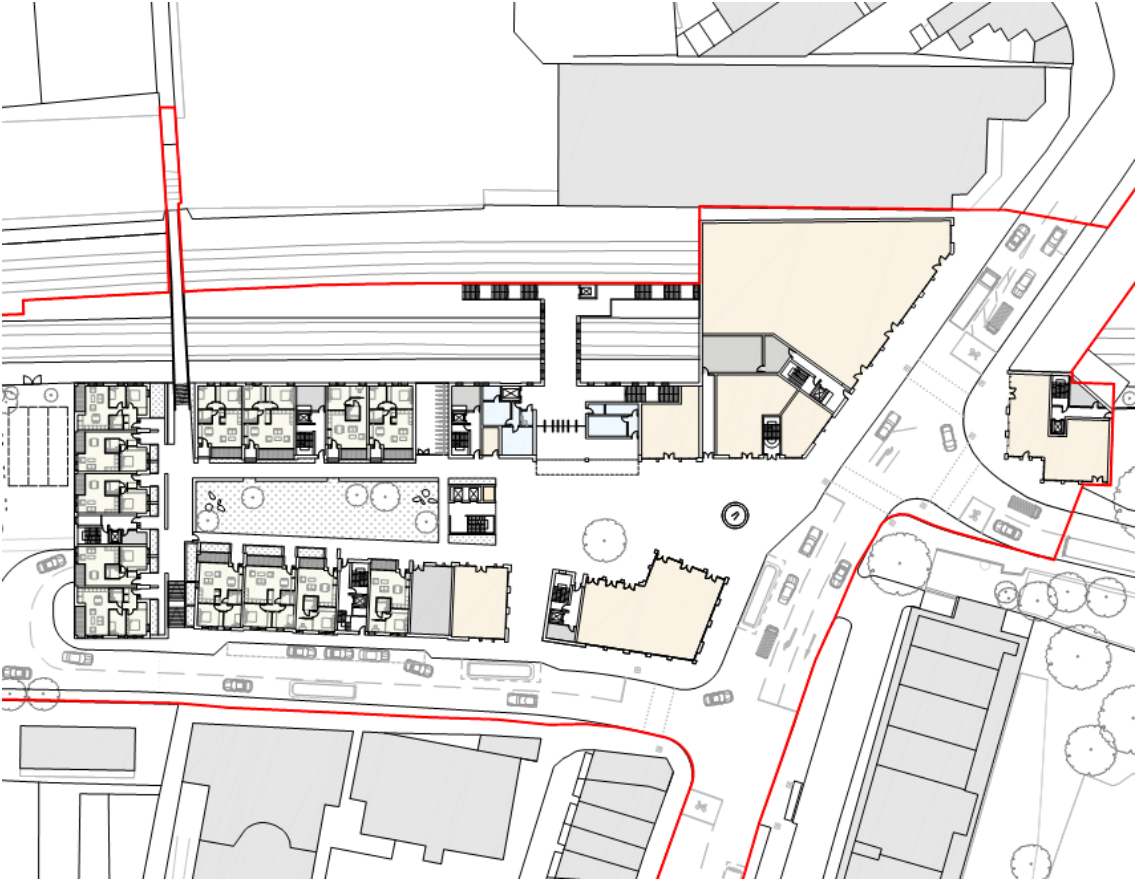


Figure 2—3: Zone A Blocks 1-7 ground floor plan



3 Utilities Summary

3.1 Utilities Affected

The following utilities are affected:

Table 3—1: Utilities affected by the proposed development

Utility Company	Type
UK Power Networks	Electricity
National Grid Gas	Gas
BT	Telecoms
Instalcom	Telecoms
OFCOM	Mobile Phone Bases
Transport for London	Rail
London Underground Asset Power	Rail
Affinity Water	Mains
Thames Water	Sewers
MBNL	Telecoms
Virgin Media	Telecoms

3.2 Utilities Unaffected

The following utilities are unaffected – apparatus are not present:

Table 3—2: Utilities unaffected where apparatus are not present

Utility Company	Type
Energetics	Electricity/Gas
GTC	Electricity/Gas
SSE	Telecom/Gas/Electric
Linesearch.org	Telecoms/Oil/Fuel
KCOM	Telecoms
BSKYB	Telecoms
Colt	Telecoms
McNicholas - TATA	Telecoms
McNicholas - KPN	Telecoms
Verizon	Telecoms
Trafficmaster	Telecoms
Interoute	Telecoms
Fulcrum Pipelines Ltd	Gas

Utility Company	Type
Telent	Telecoms
EU Networks	Telecoms
Citigen	Telecoms
London Overground	Rail
Network Rail	Rail
Crossrail	Rail
Cityfibre	Telecoms
MOD	Tunnels
Vodafone	Telecoms
Vtesse	Telecoms

4 Utility Diversions

The following sections each show a plan highlighting affected utilities. Section 4 is summarised in Table 4—1 listing all the diversions identified:

Table 4—1: Summary of diversions identified for the Northwood station development

Utility Company	Type	Diversion Requirements
UK Power Networks	Electricity	Electrical cables to be diverted; abandoned street lighting to be removed; sub-station assets to be confirmed (located at north end of existing station carpark) for relocation. Other utilities at risk.
National Grid Gas	Gas	Low pressure mains to be diverted.
BT	Telecoms	Underground assets; joint boxes; distribution boxes; manholes to be diverted. Some underground assets at risk.
Instalcom	Telecoms	Telecoms cable running down side of rail tracks – at risk
OFCOM	Mobile Phone Bases	Bases 1 and 2 possibly at risk – clarification required
Transport for London	Rail / Surface Transport	Road junction at Green Lane / Station Approach / Eastbury Rd to be reconfigured (removal of station approach and addition of bus drop off / pick up). Signal timings will need to be altered to suit.
London Underground Asset Power	Rail	High voltage and pilot cables – potentially require diversion.
Affinity Water	Mains	Water supply mains to be diverted. Some are at risk.
Thames Water	Sewers	Surface and foul Water sewers require diversion. Others at risk.
MBNL	Telecoms	Assets believed to be outside site boundary and not affected by proposed development. Needs confirmation.
Virgin Media	Telecoms	

Some utilities are shown as at risk on the basis that they are believed to not be directly affected by the construction of the proposed development. They may be located close to the site boundary in open areas or located such that with protective measures they can remain in their existing alignment e.g. under the new residential access road. This is subject to confirmation with more accurate coordination of the proposals (layout and levels) and site boundary relative to the various utilities.

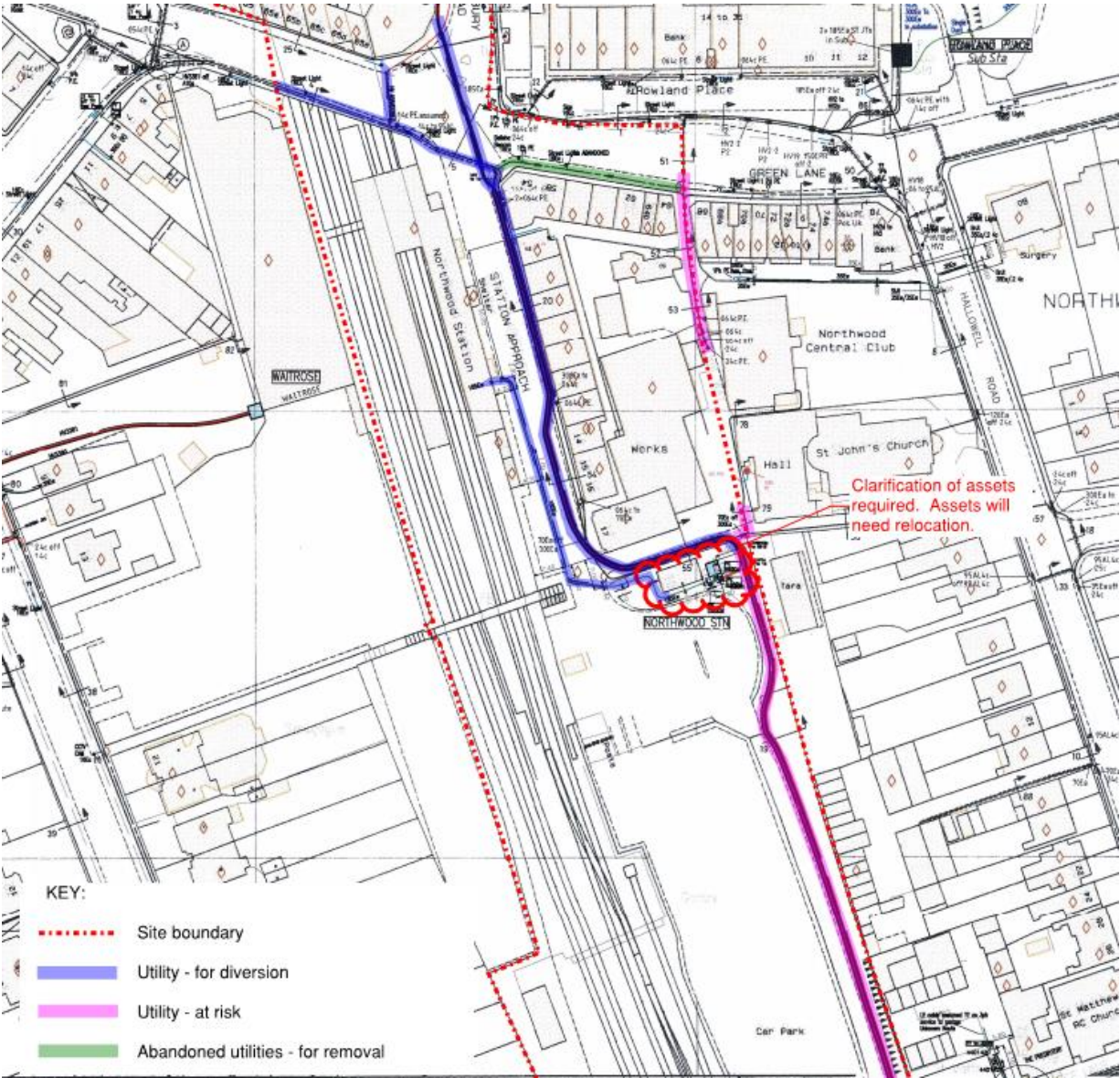
4.1 Electricity – UK Power Networks

Figure 4—1 shows UKPN electricity assets for diversion or possible diversion.

Additionally, there appears to be abandoned street lighting on Green Lane (located adjacent to building numbers 54 – 64, east of the existing station entrance) which will need removal to accommodate the proposed bus drop off/pick up. This will be subject to further detailed construction design.

Refer to Appendix B for the UKPN asset plan.

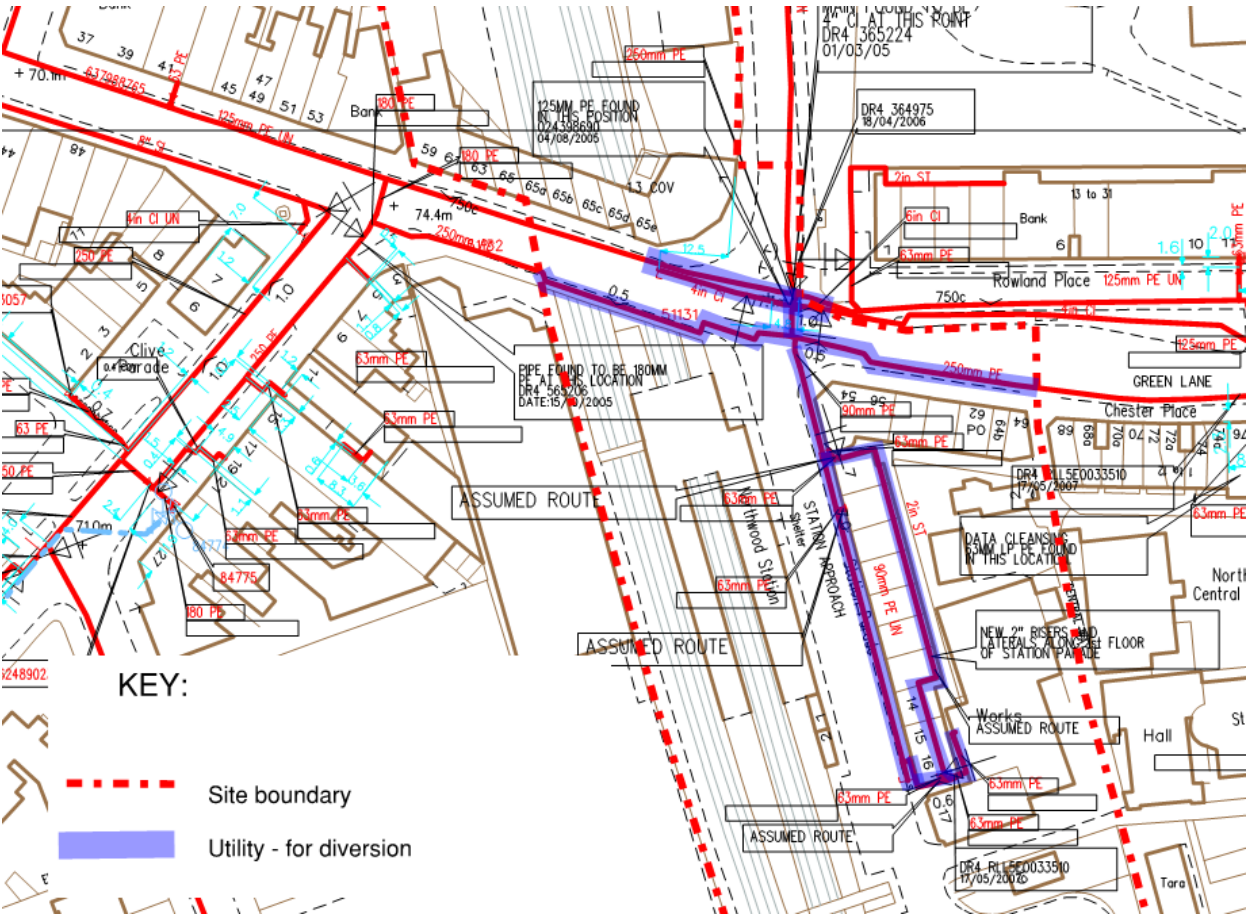
Figure 4—1: UK Power Network – affected assets for diversion



4.2 Gas – National Grid Gas

There are low pressure mains in Green Lane and Station Approach which require diversion, as shown in Figure 4—2 Appendix C shows the extent of the NG asset plan.

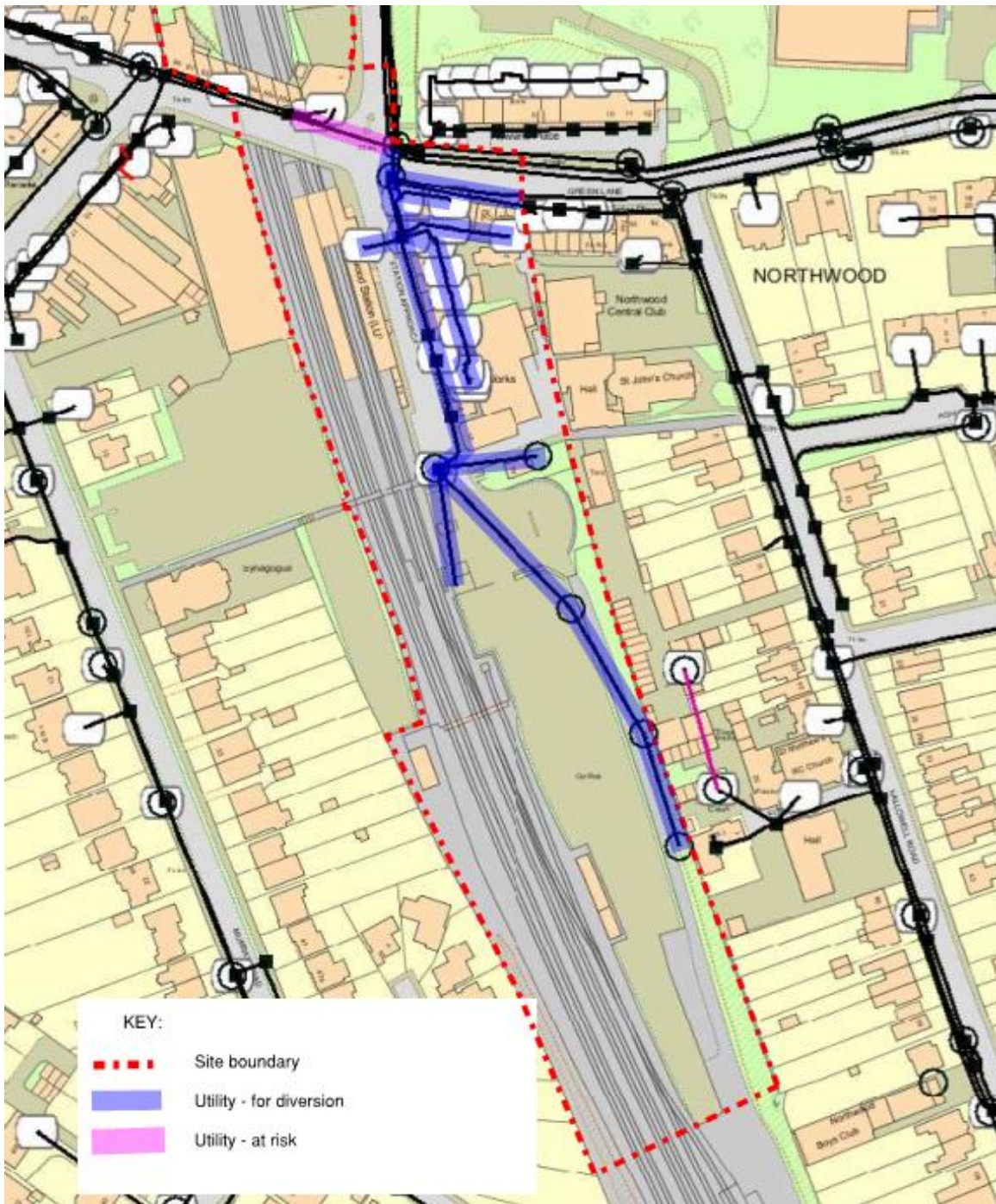
Figure 4—2: National Grid gas mains (low pressure)for diversion



4.3 BT – Telecoms

BT assets affected include underground plant, joint boxes, distribution points and manholes. Diversions are shown in Figure 4—3 and a full size version of the BT asset plan is shown in Appendix D.

Figure 4—3: BT Telecomms underground plant

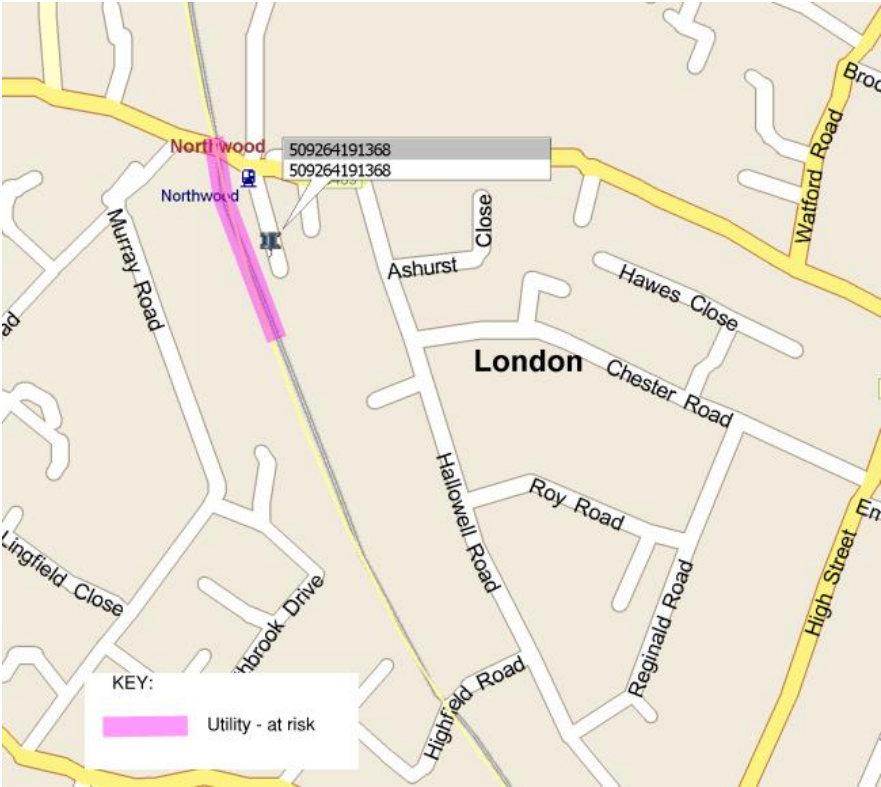


4.4 Instalcom – Telecoms

Instalcom represent Level 3 Communications who have leased from Network Rail PLC telecommunication cable lying alongside the railway track.

The proposed new station entrance and some of the proposed retail spans the rail tracks at Northwood Station and may affect the above mentioned Level 3 telecoms, as indicated in Figure 4—4. Appendix E shows the plan received from Instalcom.

Figure 4—4: Instalcom Level 3 telecoms – further clarification is required to assess if the telecoms cables are affected



4.5 OFCOM – Mobile Phone Bases

OFCOM identified 3 mobile phone bases in the local area but all are outside the site boundary. Bases 1 and 2 as shown in Figure 4—5 and Figure 4—6 are close to the site boundary but appear to be located east of Central Way hence just outside the site boundary. However, these bases could be at risk and so further checks should be made. Plans from OFCOM are shown in Appendix F.

Figure 4—5: OFCOM mobile phone bases locations – all bases identified by OFCOM as affected are outside site boundary

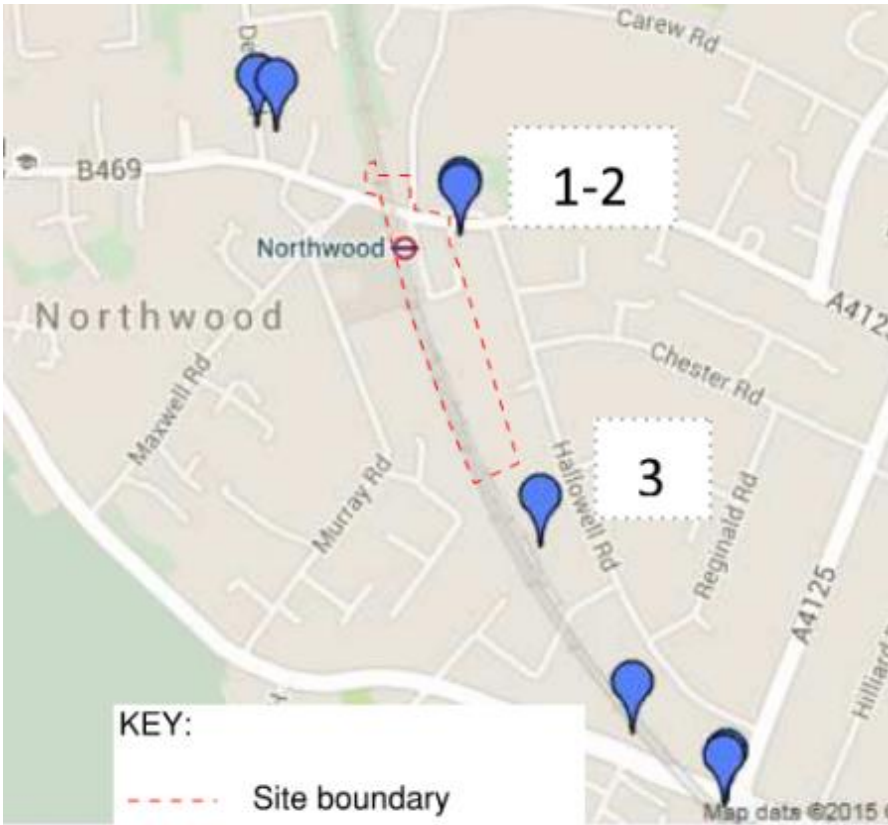
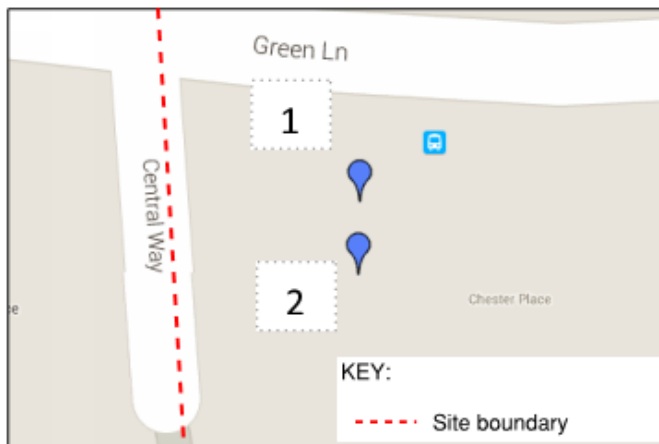


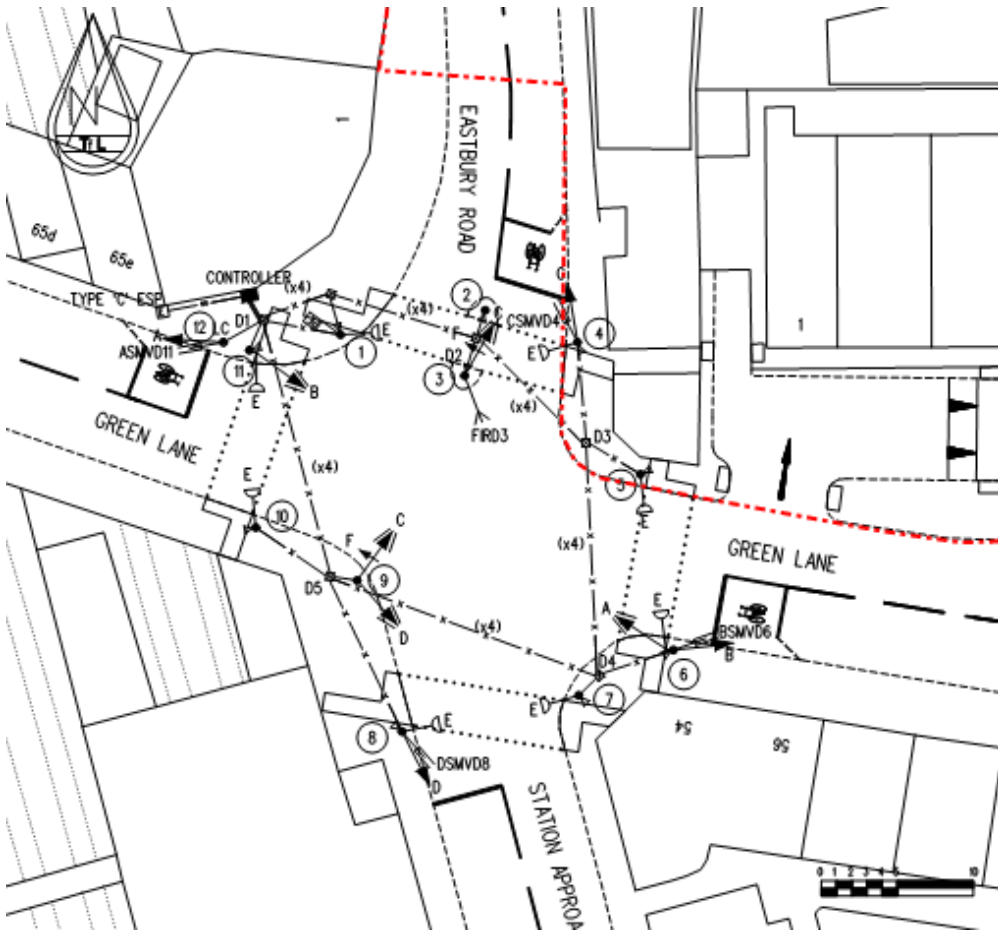
Figure 4—6: Mobile Phone Bases 1 and 2 – outside of site boundary (alignment is approximate)



4.6 Transport for London – Rail / Surface Transport

Signalling at the junction of Green Lane/Eastbury Road/Station Approach will change as a result of the removal of Station Approach and the addition of the bus drop off/pick up. Existing signal layout is shown in Figure 4—7. Refer to Appendix G for full plan version.

Figure 4—7: Traffic Signal at Green Lane / Station Approach / Eastbury Road – signalling will change as a result of changes to the junction



4.7 London Underground Asset Performance Power – Rail

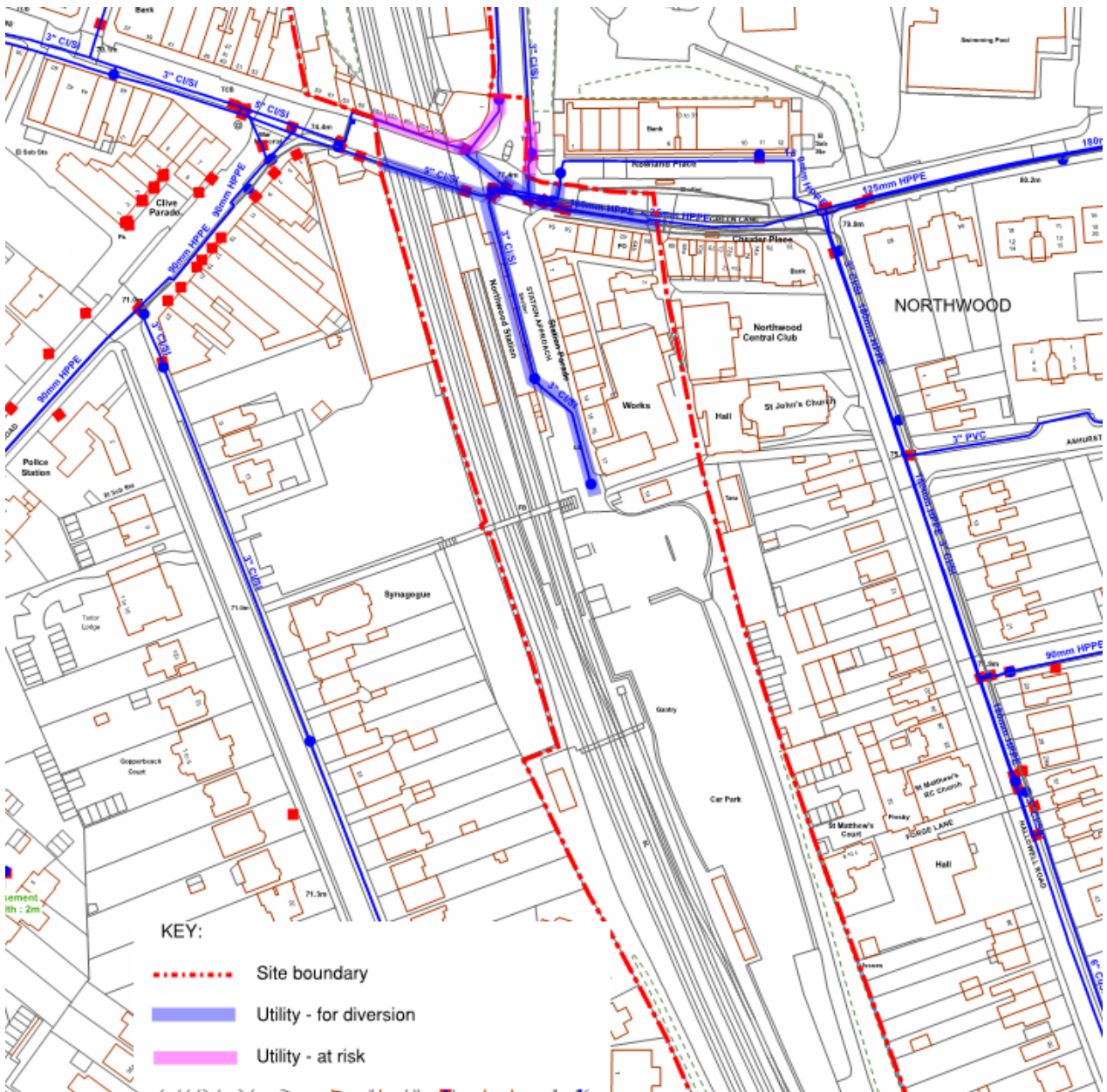
LU manage high voltage and pilot cables for London Underground’s distribution network. They have cables on both sides of the rail tracks.

The cables on the west side are on the site boundary and are at risk where new retail is proposed. The cables on the west side are buried and have manhole access within the site area. These will require diversion as they sit in the proposed new retail area and new station entrance. Appendix H shows full size plans.

4.8 Affinity Water – Mains

Affinity Water have distribution mains, fire hydrants and ‘fittings’ within the site area as shown in Figure 4—8. Appendix I shows the Affinity Water plan. Some assets are shown at risk dependent on the extent of works on the road junction.

Figure 4—8: Affinity Water – Mains

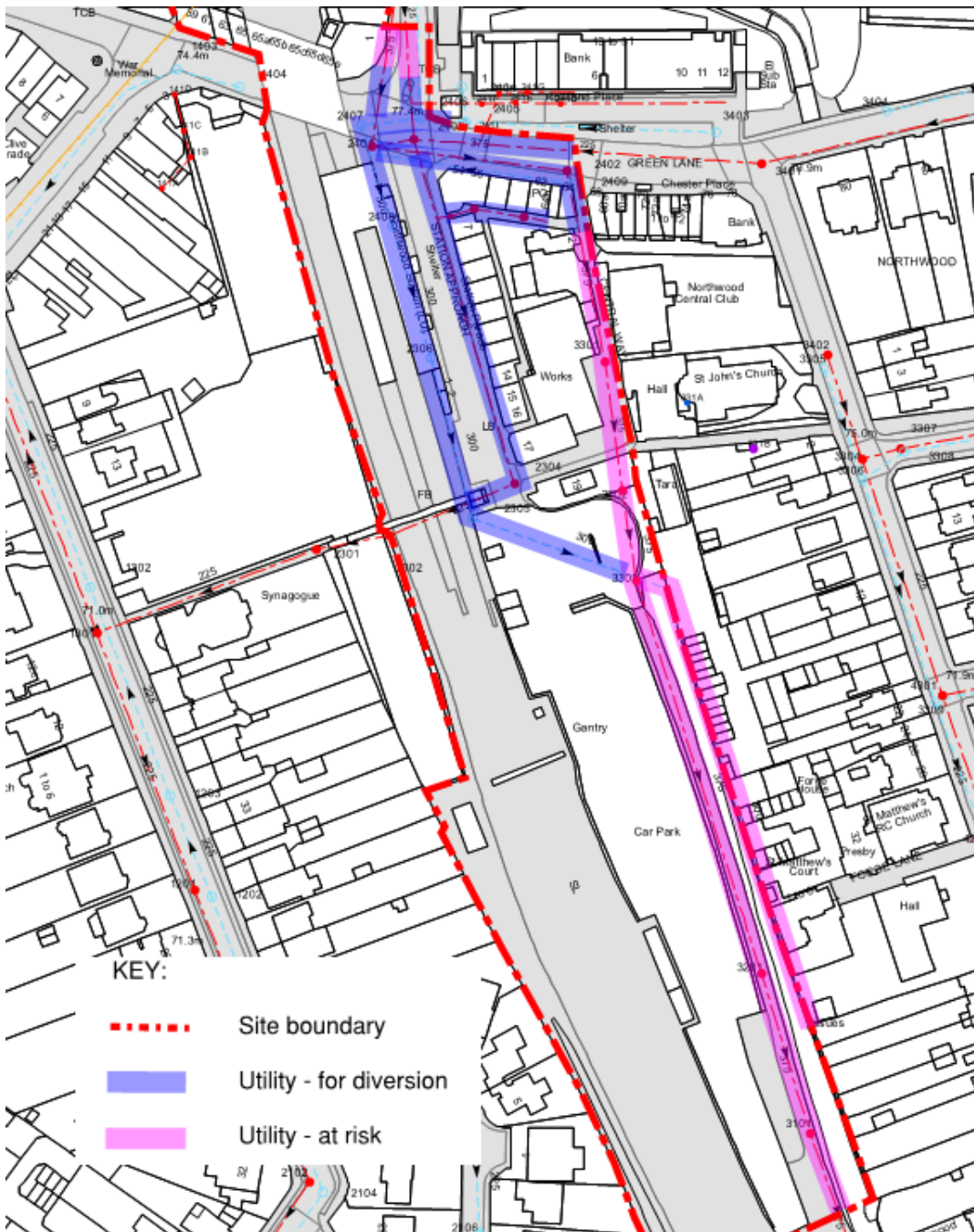


4.9 Thames water – Sewer

Thames water have both surface and foul water drainage networks within the site boundary. Those requiring diversion are shown in Figure 4—9. Appendix J shows the Thames Water plan.

There are some sections of the existing utilities that will not need to be diverted but protective measures will be required.

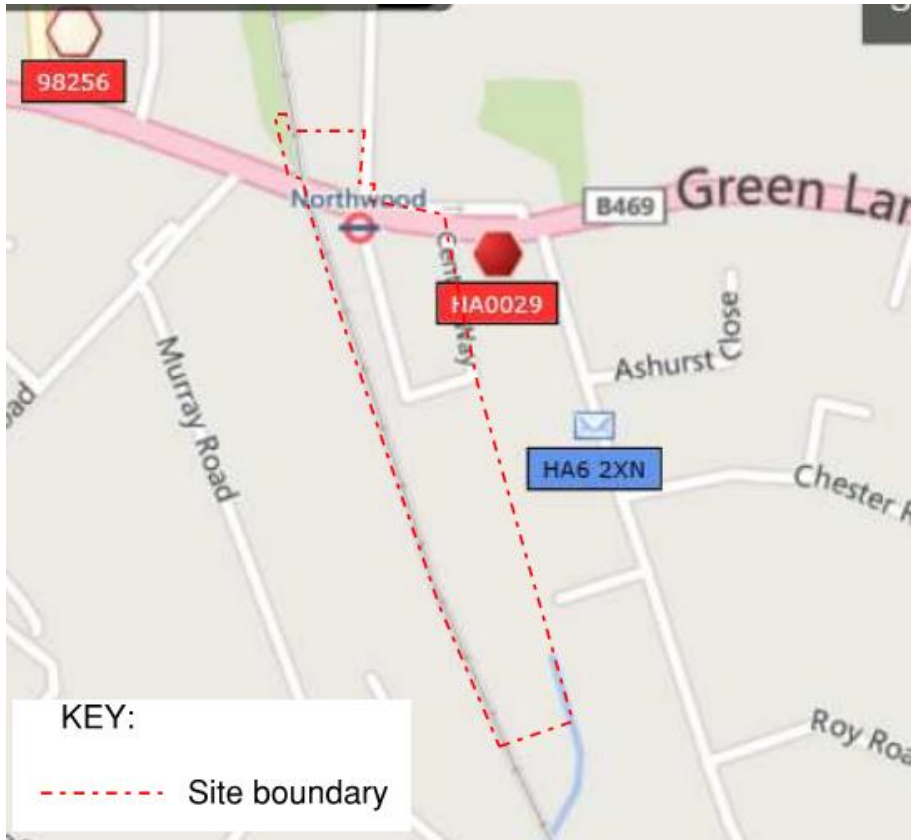
Figure 4—9: Thames Water – Sewer for diversion



4.10 MBNL – Telecoms

MNBL represent EE and HG3 mobile telecommunications networks. They have confirmed they have plant nearby but have not provided further detail except that shown in Figure 4—10 which appears to show they have plant (ref HA0029) located east of Central Way and the site boundary and are, in fact, unaffected. Appendix K shows the plan provided by MBNL.

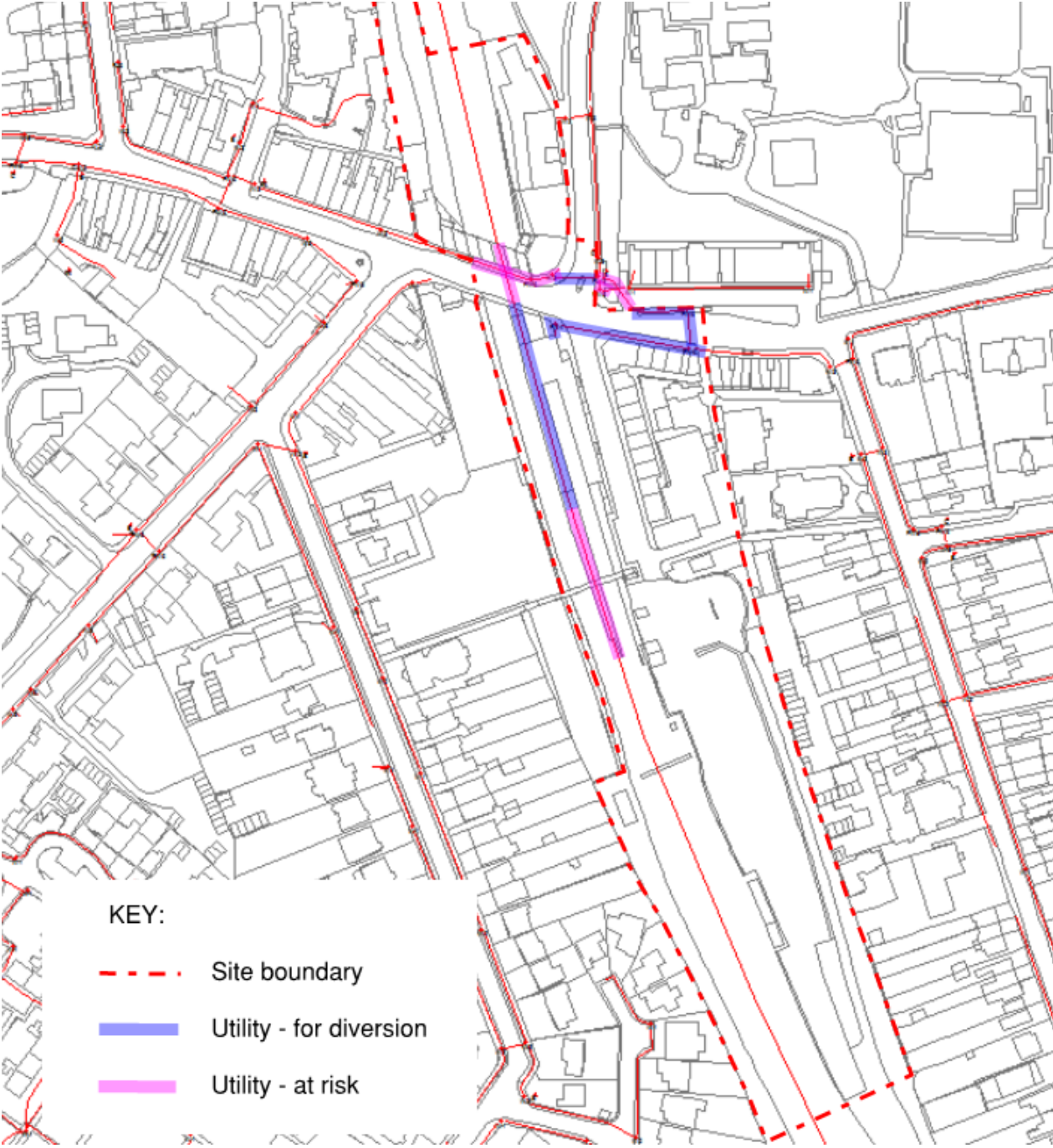
Figure 4—10: MNBL – Telecoms possibly affected



4.11 Virgin Media – Telecoms

Virgin Media have ducts, chambers and cabinets within the site boundary. The ducts may contain fibre optic, Coaxial and/or 240 v power cables. Those requiring diversion are shown in Figure 4—11. Some ducts have been identified at risk where they are located close to the site boundaries and may not be affected by the built works so will not require diversion. At risk ducts may require protective measures. Refer to Appendix L for telecoms plan.

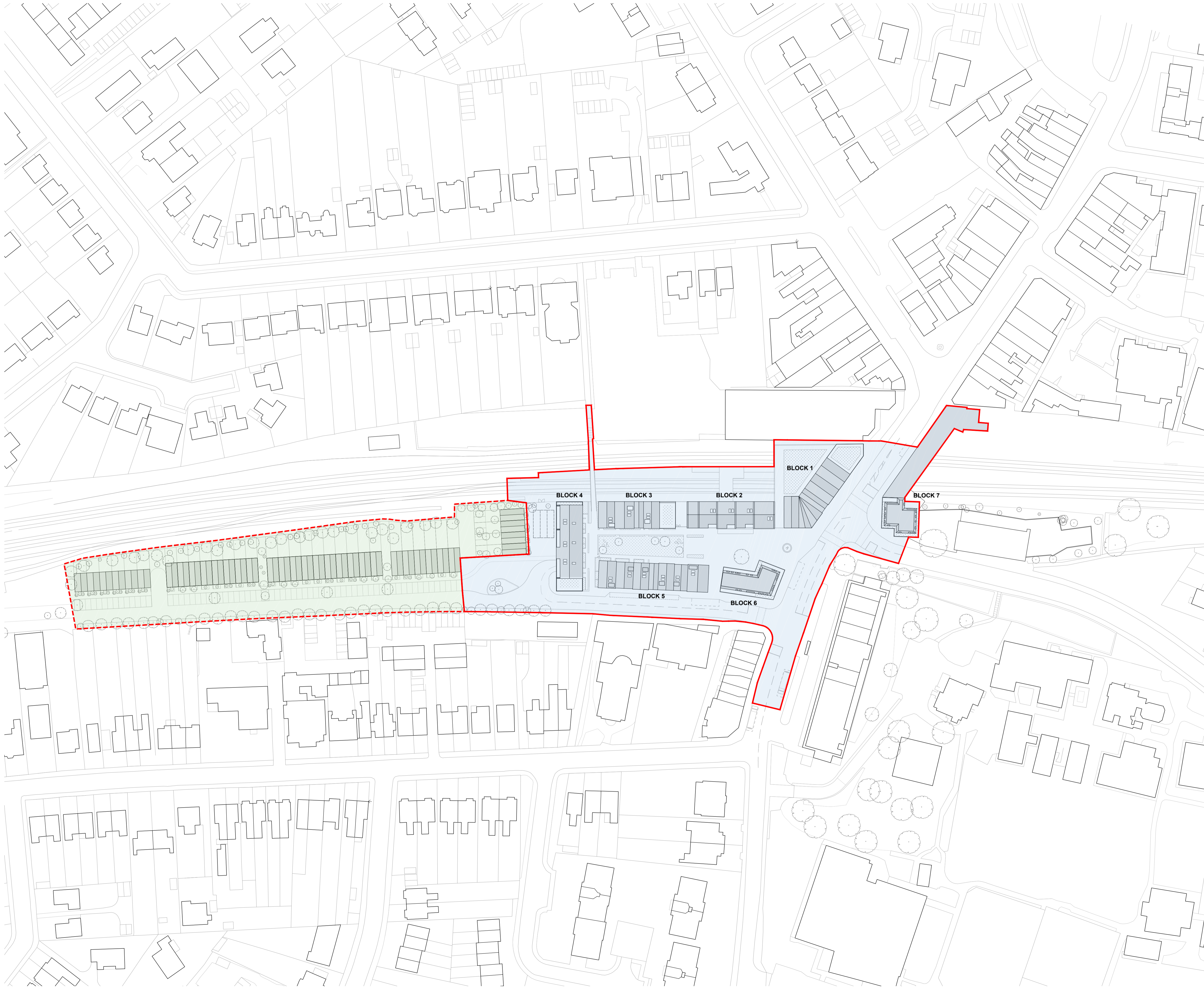
Figure 4—11: Virgin Media – Telecoms ducts for diversion or at risk



Appendix A Proposed Development

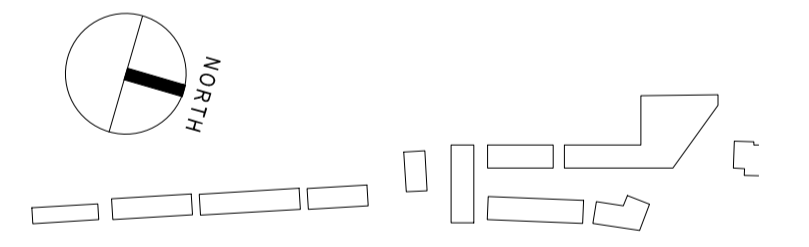
NOTES
 Fletcher Priest Architects is a Limited Liability Partnership registered in England and Wales (OC336568) at the below address. ≡ this drawing is to be read in conjunction with the design risk assessment prepared by fpa. ≡ this drawing is to be read in conjunction with other drawings and specification produced by fpa and other members of the design team. ≡ all dimensions are in millimeters unless otherwise stated. ≡ do not scale this drawing. ≡ any discrepancies in dimensions are to be reported to the architect. ≡ all information subject to detail site survey.

KEY
 [Red Solid Line] ZONE A - Detail Application (12,194.4m²)
 [Red Dashed Line] ZONE B - Outline Application (6,193.6m²)



REV	DESCRIPTION	BY	CHK	DATE
A	GA FREEZE	AH	LR	16.10.15
.	DRAFT ISSUE	AH	LR	25.09.15

FOR INFORMATION



**TRANSPORT FOR LONDON
 NORTHWOOD**

**05 SITE
 Location Plan
 Application Boundaries**

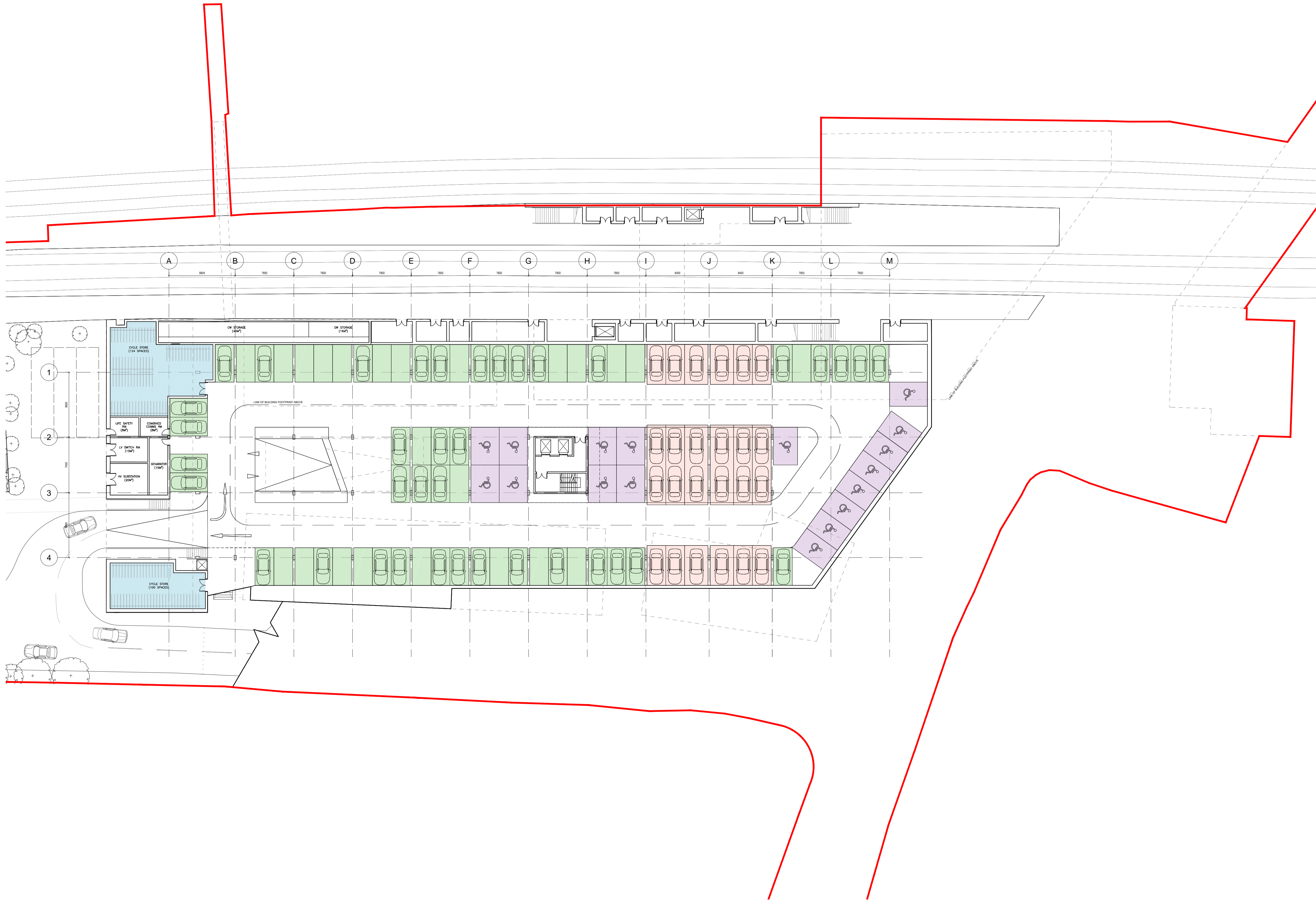
DRAWING NUMBER / REVISION
A 1323 GA 0502 A

SCALE
 1:750 @A1 / 1:1500 @A3
 DATE / DRAWN BY / CHECKED BY
 31.07.2015 AH / LR

fletcher priest architects
london + köln + riga
 middlesex house
 34/42 cleveland st
 london W1T 4JE
 t +44 (0)20 7034 2200
 f +44 (0)20 7637 5347
 www.fletcherpriest.com

NOTES
 Fletcher Priest Architects is a Limited Liability Partnership registered in England and Wales (OC336568) at the below address. This drawing is to be read in conjunction with the design risk assessment prepared by fpa. This drawing is to be read in conjunction with other drawings and specification produced by fpa and other members of the design team. All dimensions are in millimeters unless otherwise stated. Do not scale this drawing. Any discrepancies in dimensions are to be reported to the architect. All information subject to detail site survey.

- KEY:
- Site Boundary
 - Residential
 - Retail
 - Station
 - Single Parking
 - Car Stackers
 - Disabled Parking
 - Cycle Store
 - Refuse Store

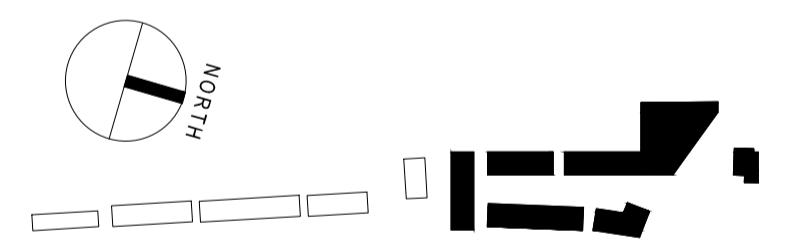


TOTAL CAR SPACES - 126
 (61 Commuter / 17 Accessible / 48 Residential)

IN ABEYANCE, STRUCTURES/SERVICES TO BE COORDINATED WITH BH.

B	GA FREEZE	AH	LR	16.10.15
A	GA FREEZE	AH	LR	09.10.15
-	DRAFT ISSUE	AH	LR	25.09.15
REV	DESCRIPTION	BY	CHK	DATE

FOR INFORMATION



TRANSPORT FOR LONDON
 NORTHWOOD

20 GA PLANS
 Zones A Blocks 1-7
 Lower Ground 2 Floor Plan

DRAWING NUMBER / REVISION
A 1323 GA 2000 B

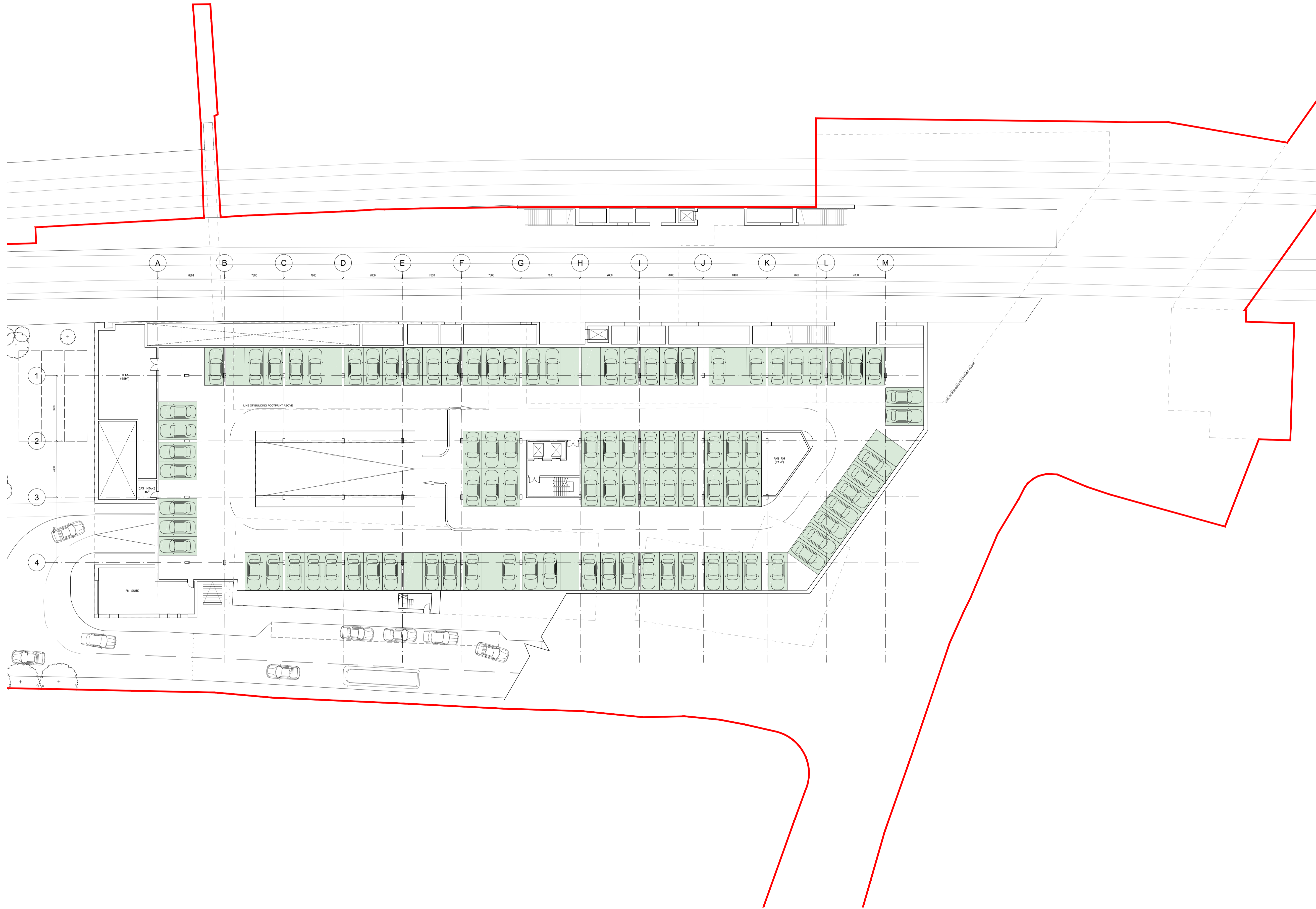
SCALE
 1:250 @A1 / 1:500 @A3

DATE / DRAWN BY / CHECKED BY
 31.07.2015 RE / LR

fletcher priest architects
 london + köln + riga
 middlesex house
 34/42 cleveland st
 london W1T 4JE
 t +44 (0)20 7034 2200
 f +44 (0)20 7637 5347
 www.fletcherpriest.com

NOTES
 Fletcher Priest Architects is a Limited Liability Partnership registered in England and Wales (OC336568) at the below address. This drawing is to be read in conjunction with the design risk assessment prepared by fpa. This drawing is to be read in conjunction with other drawings and specification produced by fpa and other members of the design team. All dimensions are in millimeters unless otherwise stated. Do not scale this drawing. Any discrepancies in dimensions are to be reported to the architect. All information subject to detail site survey.

- KEY:
- Site Boundary
 - Residential
 - Retail
 - Station
 - Single Parking
 - Car Stackers
 - Disabled Parking
 - Cycle Store
 - Refuse Store

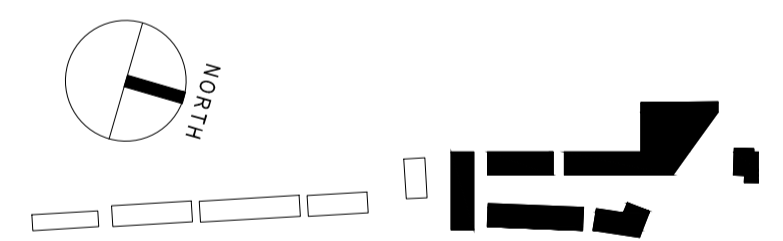


TOTAL CAR SPACES - 126
 (61 Commuter / 17 Accessible / 48 Residential)

IN ABEYANCE, STRUCTURES/SERVICES TO BE COORDINATED WITH BH.

B	GA FREEZE	AH	LR	16.10.15
A	GA FREEZE	AH	LR	09.10.15
-	DRAFT ISSUE	AH	LR	25.09.15
REV	DESCRIPTION	BY	CHK	DATE

FOR INFORMATION



TRANSPORT FOR LONDON
 NORTHWOOD

20 GA PLANS
 Zone A Blocks 1-7
 Lower Ground 1 Floor Plan

DRAWING NUMBER / REVISION
A 1323 GA 2001 B

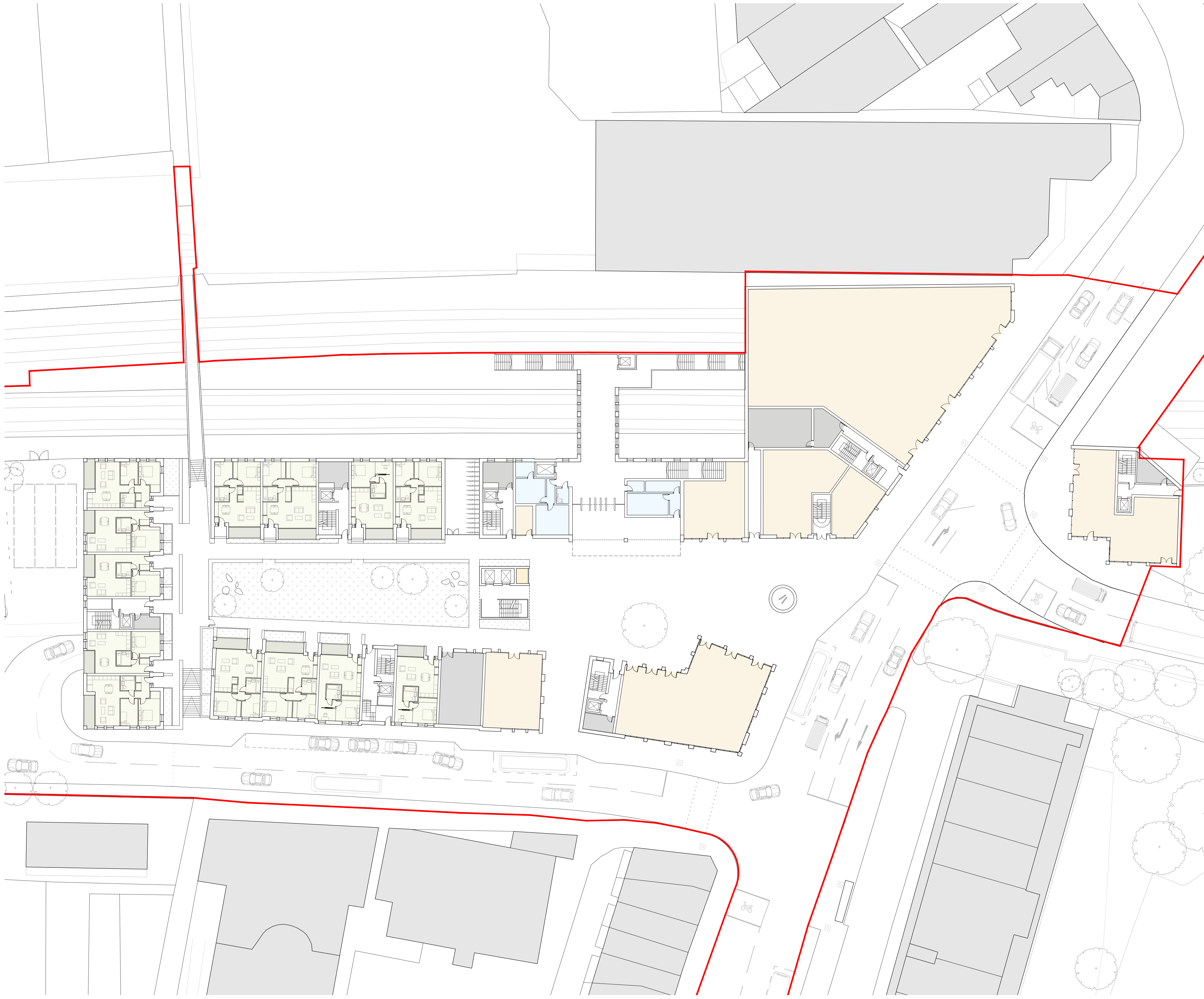
SCALE
 1:250 @A1 / 1:500 @A3

DATE / DRAWN BY / CHECKED BY
 31.07.2015 RE / LR

fletcher priest architects
 london + köln + riga
 middlesex house
 34/42 cleveland st
 london W1T 4JE
 t +44 (0)20 7034 2200
 f +44 (0)20 7637 5347
 www.fletcherpriest.com

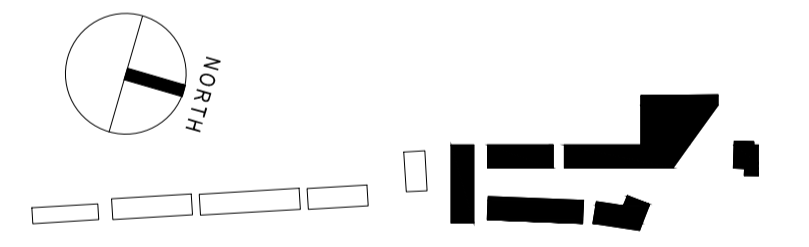
NOTES
 Fletcher Priest Architects is a Limited Liability Partnership registered in England and Wales (OC336568) at the below address. This drawing is to be read in conjunction with the design risk assessment prepared by fpa. This drawing is to be read in conjunction with other drawings and specification produced by fpa and other members of the design team. All dimensions are in millimeters unless otherwise stated. Do not scale this drawing. Any discrepancies in dimensions are to be reported to the architect. All information subject to detail site survey.

- KEY:
- Site Boundary
 - Residential
 - Retail
 - Station
 - Single Parking
 - Car Stackers
 - Disabled Parking
 - Cycle Store
 - Refuse Store



REV	DESCRIPTION	BY	CHK	DATE
B	GA FREEZE	AH	LR	16.10.15
A	GA FREEZE	AH	LR	09.10.15
-	DRAFT ISSUE	AH	LR	25.09.15

FOR INFORMATION



TRANSPORT FOR LONDON
 NORTHWOOD

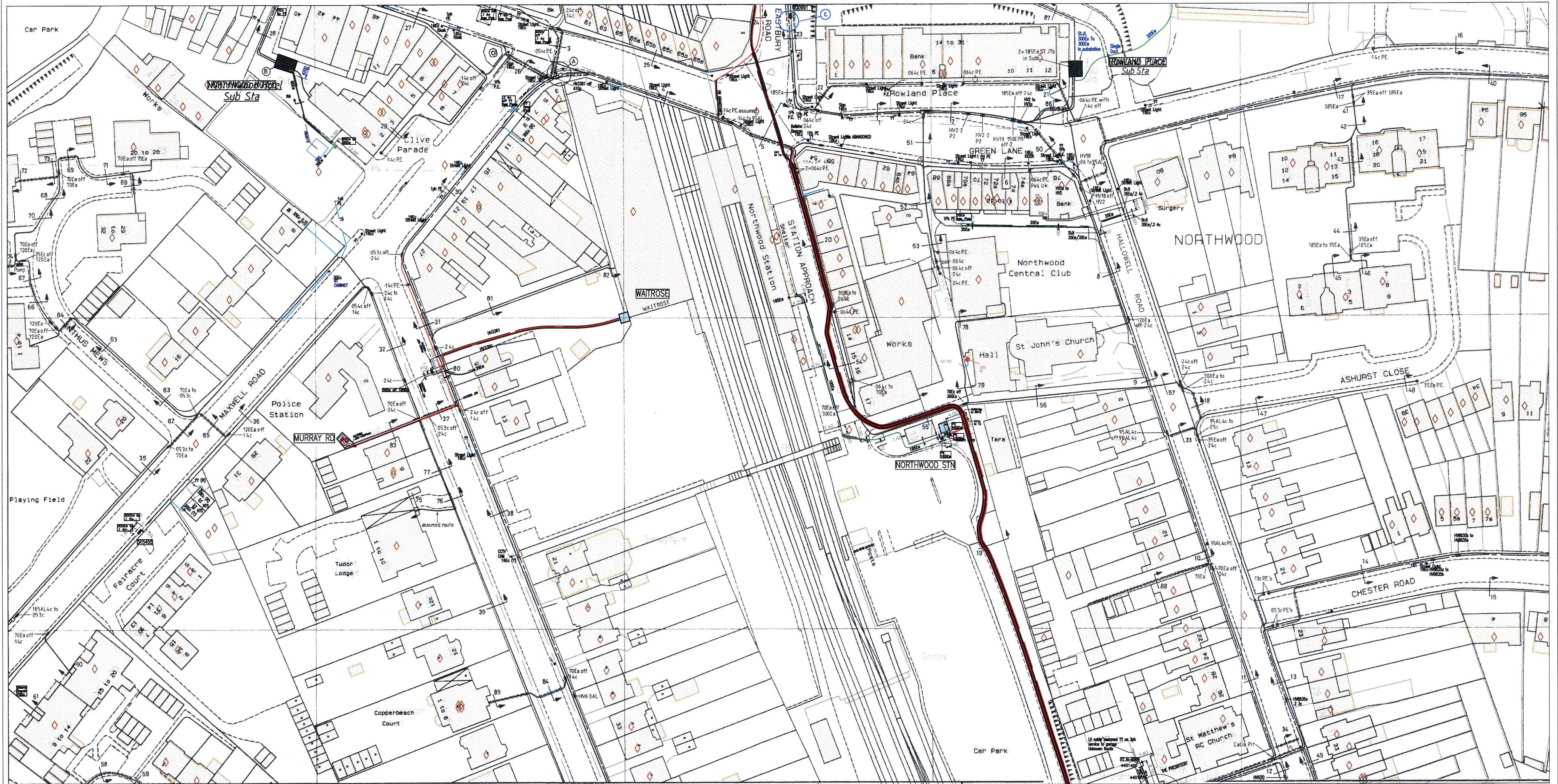
20 GA PLANS
 Zone A Blocks 1-7
 Ground Floor Plan

DRAWING NUMBER / REVISION
A 1323 GA 2002 B

SCALE
 1:250 @A1 / 1:500 @A3
 DATE / DRAWN BY / CHECKED BY
 31.07.2015 AH / LR

fletcher priest architects
 london + köln + riga
 middlesex house
 34/42 cleveland st
 london W1T 4JE
 t +44 (0)20 7034 2200
 f +44 (0)20 7637 5347
 www.fletcherpriest.com

Appendix B UKPN Electricity Plan



Plotted On : 19/05/2015

Plotted By : Lynda Blizard

Plot Description: AT NORTHWOOD STATION GREEN LANE
NORTHWOOD GREATER LONDON HA6 2XN
2015/2187748

Map Centre : TQ0991SW



UK Power Networks
Plan Provision
Fore Hamlet
IPSWICH
Suffolk
IP3 8AA
Tel 0800 0565 866
Fax 08701 963782



For details of the symbology please refer to
<http://www.ukpowernetworks.co.uk/safety-emergencies/in-the-workplace/understanding-safety-symbols.html>

PRIMARY CABLES
EXTRA HIGH VOLTAGE CABLES (EHV) 22,000 TO 132,000 Volts
Depth normally 750mm cover in carriageway & 600mm cover in footway.
Before digging within one metre of these cable routes
Telephone 0800 056 5866 in order that the Company's apparatus may be located on site and any necessary protection works agreed.
N.B. THRUST BORERS OR MOLES MUST NOT BE USED WITHIN THE VICINITY OF ANY CABLES BELONGING TO UK POWER NETWORKS WITHOUT FIRST CONTACTING THIS COMPANY.

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 cables has been determined.
4. It must be assumed that each property and item of street furniture has an electricity supply. Service cables shown only where known.
5. All cables must be treated as being live unless proved otherwise by UK Power Networks.
6. The information provided must be given to all people working near UK Power Networks plant & 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.

1. UK Power Networks Ltd does not warrant that the information provided to you is correct. You rely upon it at your own risk.
2. UK Power Networks Ltd does not exclude or limit its liability if it causes the death of a 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 Ltd has no liability to you in contract, in tort (including negligence), for breach of statutory duty or otherwise howsoever 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.

Reproduced by permission of Ordnance Survey on behalf of HMSO. (c) Crown copyright and database right 2015. All rights reserved. Ordnance Survey Licence number 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 (c) South Eastern Power Networks plc or London 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.

ADVICE TO CONTRACTORS ON AVOIDING DANGER FROM BURIED ELECTRICITY CABLES.

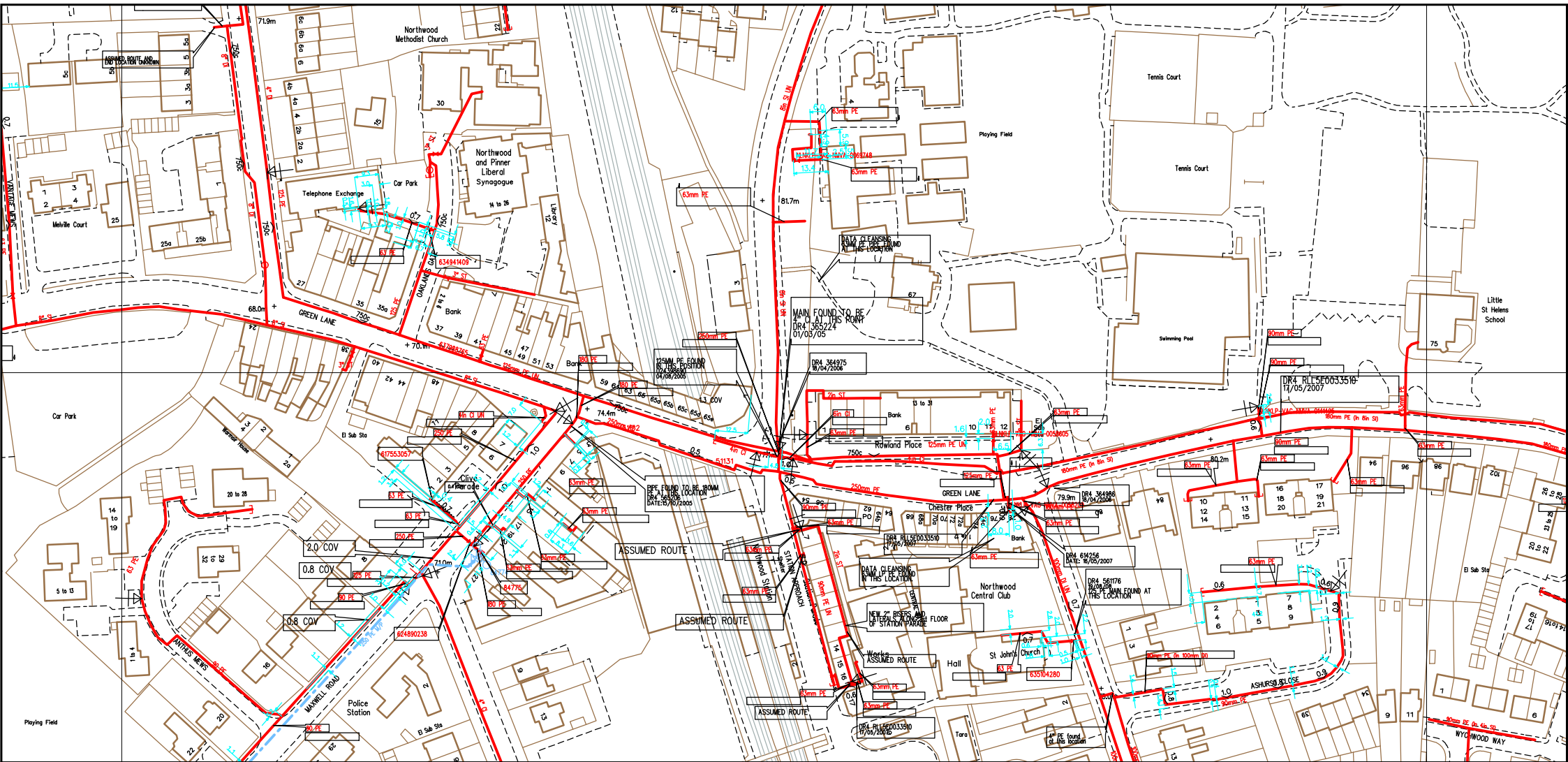
- 1) Do have cable drawings with you on site and check them before you start the excavation.
- 2) Do have a cable locator tool on site and use it to help you.
- 3) Mark out the location of electricity cables.
- 4) Do not use a mechanical excavator within 0.5m of electricity cables.
- 5) Use spades and shovels in preference to other tools.
- 6) Never disturb electricity cables and joints or their protective covers.

IF IN DOUBT - ASK! PHONE 0800 056 5866
EMERGENCY - If you damage a cable or line Phone
0800 780 0780 (24hrs) URGENTLY

These basic safety precautions are explained in detail in the HSE booklet HS(G)47 - Avoiding Danger from Underground Services, a copy of which may be obtained from your supervisor or HMSO.

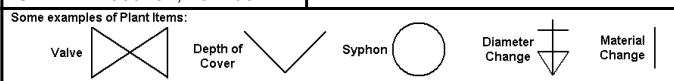
Please be aware that electric lines belonging to other owners of licensed electricity distribution systems may be present and it is your responsibility to identify their location.

Appendix C National Grid Gas Plan



SCALE: Not to scale
USER ID: TCoyte-Broomfield
DATE: 15/05/2015
EXTRACT DATE: 12/12/2014
MAP REF: TQ0991
CENTRE: 509254, 191496

LP MAINS	
MP MAINS	
IP MAINS	
LHP MAINS	
NHP MAINS	



This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue. Further information on all DR4s can be determined by calling the DR4 hotline on 01455 892426 (9am-5pm) A DR4 is where a potential error has been identified within the asset record and a process is currently underway to investigate and resolve the error as appropriate.

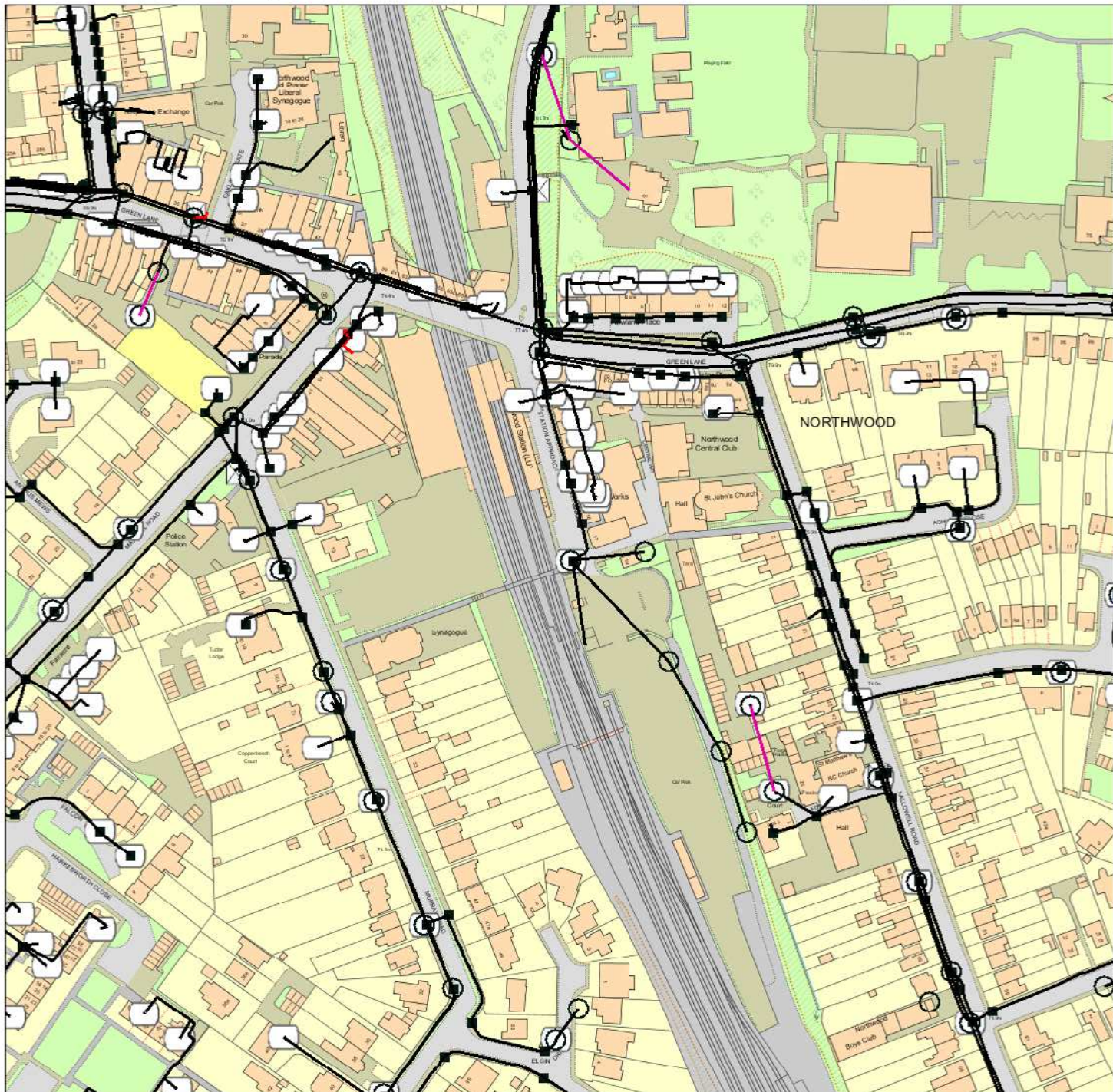
MAPS Viewer Version 5.6.7.0

Local Machine

This plan is reproduced from or based on the OS map by National Grid Gas plc, with the sanction of the controller of HM Stationery Office. Crown Copyright Reserved.

Appendix D BT Telecoms Plan

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.

DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993
E-mail: dbyd@openreach.co.uk
Website: www.dialbeforeyoudig.com

Reproduced from the Ordnance Survey map by BT by permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationary Office
(C) Crown Copyright British Telecommunications plc 100028040

KEY TO BT SYMBOLS

	UNDERGROUND PLANT		POLE
	OVERHEAD PLANT		CABINET
	JOINT BOX		BURIED JOINT
	DISTRIBUTION POINT		JOINTING POST
	MANHOLE		PROPOSED U/G
	DP BOUNDARY		PROPOSED O/H
	OTHER BT BOUNDARY		PROPOSED BOX

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 the time of preparation.

openreach
a BT Group business

BT Ref : RSY10403R

Map Reference : (centre) TQ0926491368

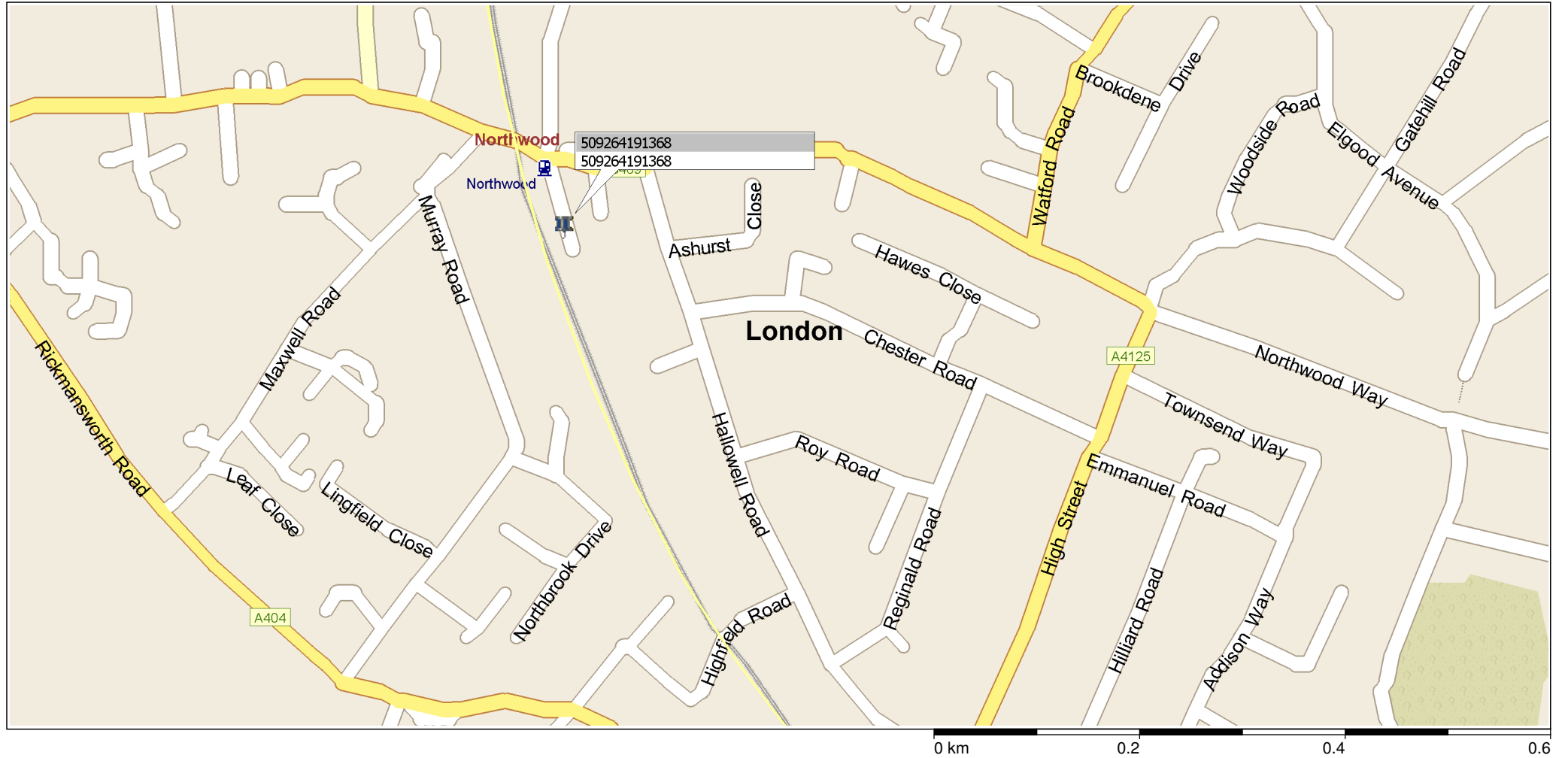
Easting/Northing : (centre) 509264, 191368

Issued : 15/05/2015 10:48:02

FOOTNOTE: WARNING IT IS ESSENTIAL THAT YOU CONTACT NATIONAL NETWORK HANDLING CENTRE BY EMAIL nnhc@openreach.co.uk BEFORE PROCEEDING WITH ANY WORK IN THE HATCHED AREA

Appendix E Instalcom Telecoms Plan

GC & Fibernet as-built map (Version 6.0) - 30-01-12 - New



Appendix F OFCOM Mobile Phone Bases Plan

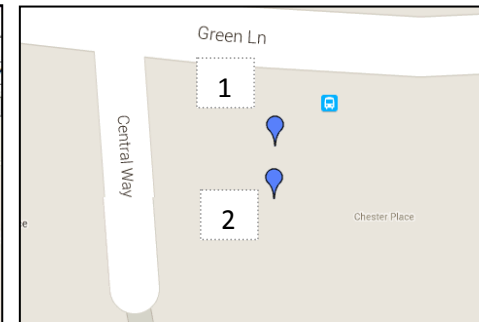


OFCOM mobile phone bases are located below:

Enter the location that you wish to search for (eg Postcode, Town or Street)

Northwood, Northwood, Greater London HA6 2XN, UK

Click on a station to see the details.	Single Operator GSM technology	Single Operator UMTS technology	Single Operator TETRA technology	Base stations with more than one operator or more than one technology
	2	3	0	4

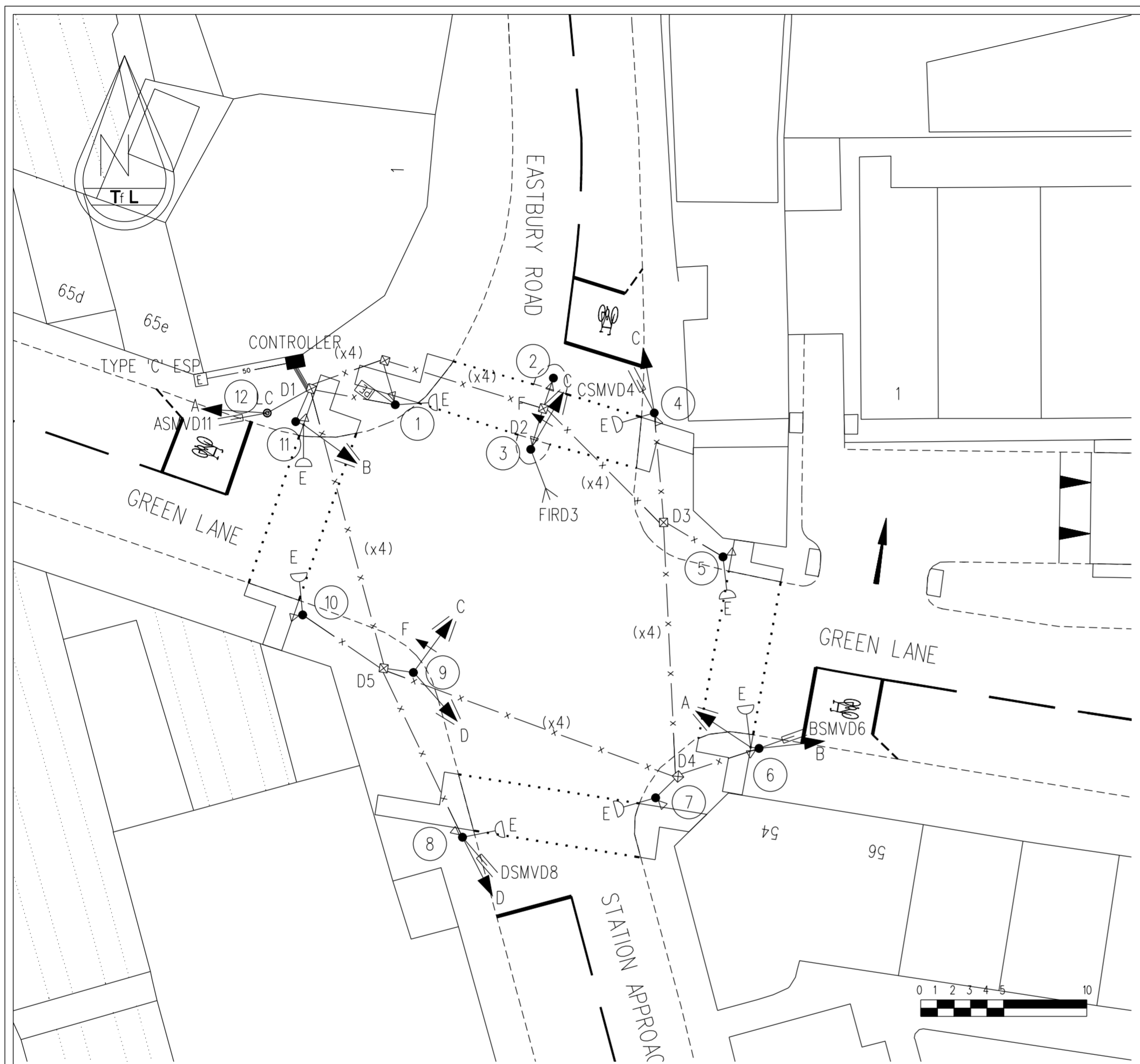


OFCOM

**Riverside House
2a Southwark
Bridge Road
London
SE1 9HA**

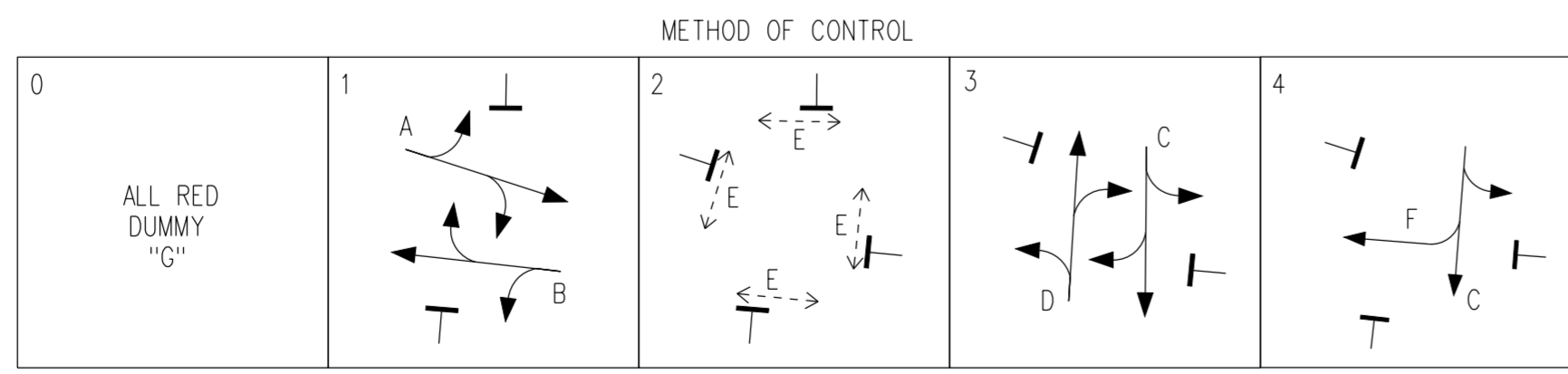
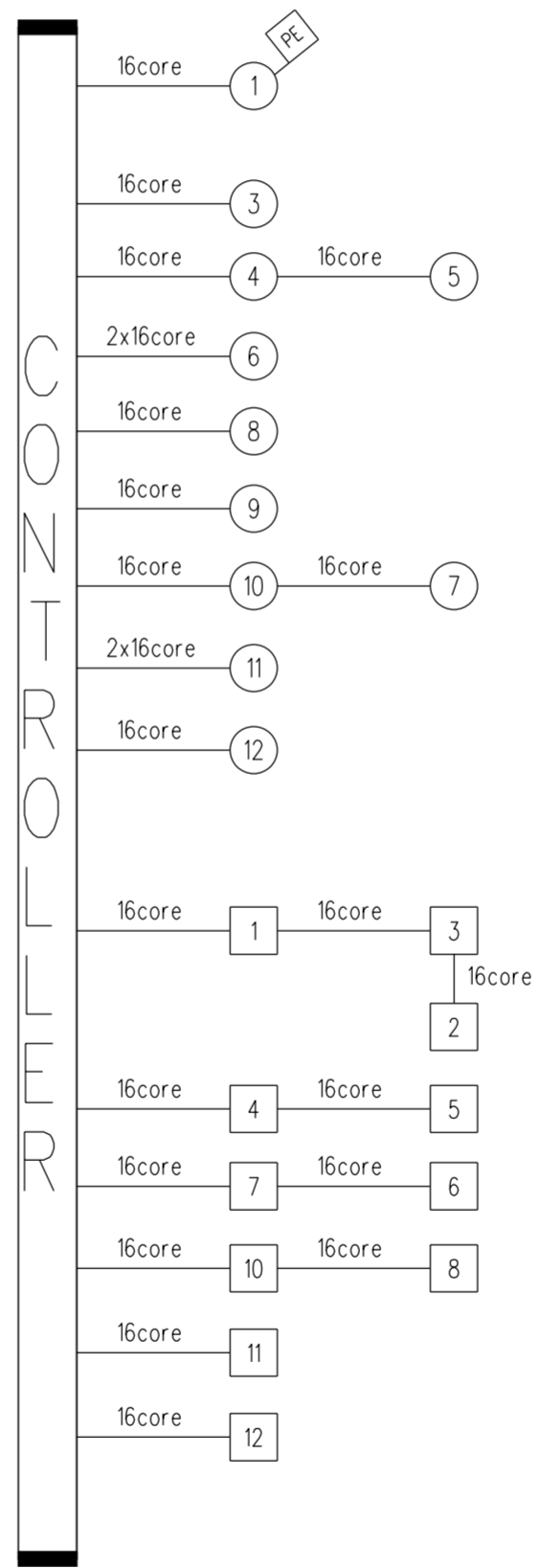
Tel: 020 7981 3040

Appendix G Transport for London Plan



- NOTES
- 1 SYMBOLS ARE IN ACCORDANCE WITH CURRENT VERSION OF DRG No SIG/GEN/S/1526
 - 2 EXISTING DUCT —x—x—x—
 - 3 EXISTING DRAWPITS
 - 4 50mm DUCT FROM CONTROLLER TO ESP
 - 5 ALL POLES POSITIONED TO PROVIDE A MINIMUM OF 450mm CLEARANCE FROM KERB TO ALL SIGNAL HEADS
 - 6 ANTI-SKID SURFACING, TACTILE PAVING, GUARDRAILING & ROAD MARKINGS INDICATIVE WHERE SHOWN
 - 7 ALL POLES INSTALLED DIRECTLY INTO GROUND
 - 8 PUSHBUTTONS MOUNTED AT 45° TO KERB ON ALL POLES
 - 9 TACTILE ROTATING CONES FITTED TO PUSHBUTTONS ON ALL POLES EXCEPT POLE 9
 - 10 AUDIBLES FITTED TO PUSHBUTTONS ON POLES 1, 4, 5, 6, 7, 8, 10 & 12
 - 11 POLE 2 IS A 2.0M. POLE
 - 12 POLE 12 IS A LAMP COLUMN WITH HEADS MOUNTED AS ON A 4.85M. POLE
 - 14 POLES ARE BLACK IN COLOUR

CABLE SCHEMATIC DIAGRAM



REV	DATE	DETAILS	CONTRACT
2	25.03.10	DWG CORRECTION: CABLE DIAGRAM & DRAWPIT POSITIONS CORRECTED AS PER SITE VISIT	TFL/FCC BM
1	27.01.10	AS INSTALLED	STCL SC.0969.001574 TFL - CSC

Windsor House
 42-50 Victoria Street
 LONDON SW1H 0TL
 Telephone 020 7222 5600

scheme L B OF HILLINGDON
 GREEN LANE /
 STATION APPROACH /
 EASTBURY ROAD
 TRAFFIC SIGNALS LAYOUT

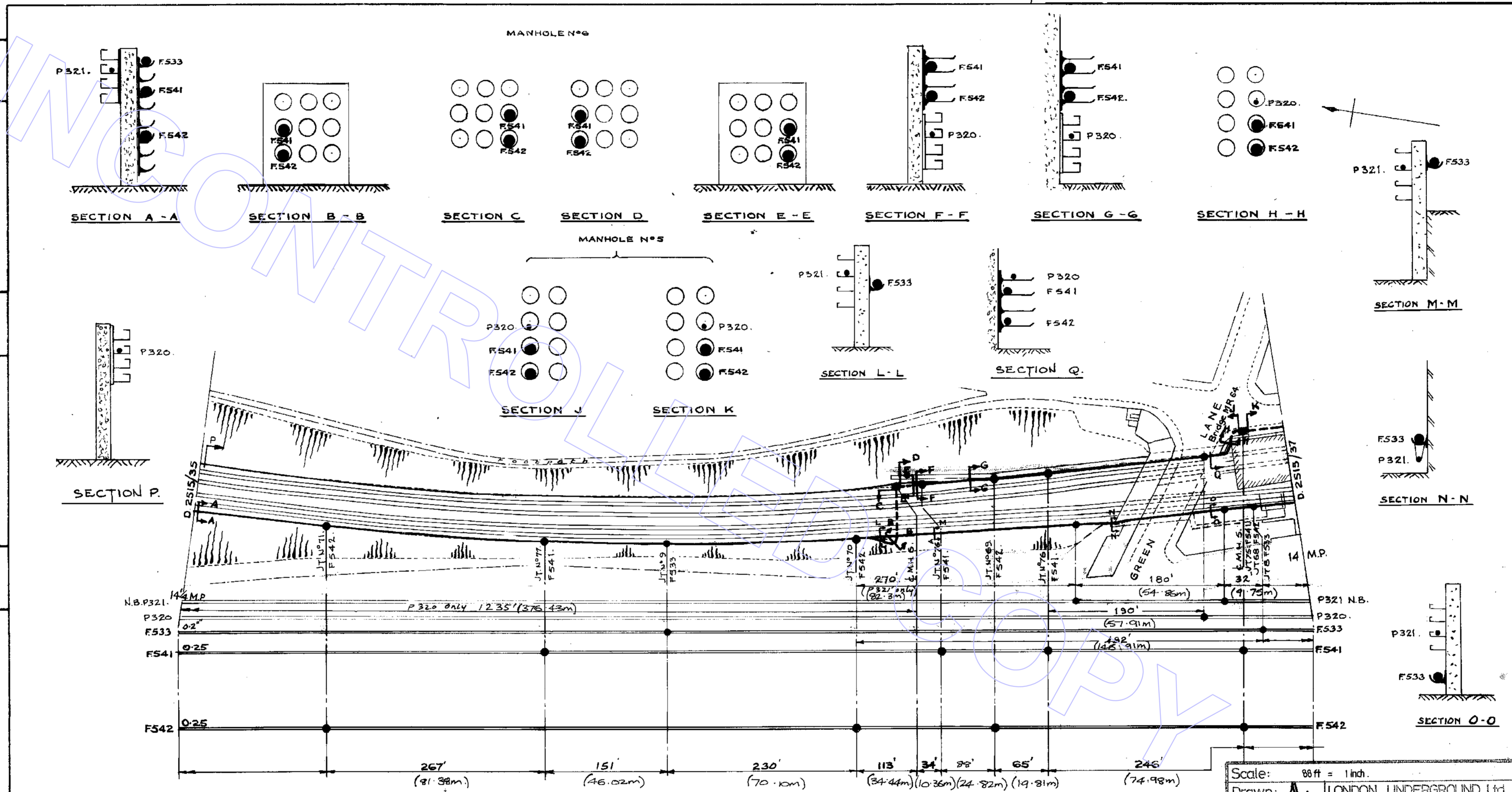
date SEP 10 scale 1:200@A2

No. SLD/26/251/02

27/05/11 11:56 MAL/08
 This map is reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. (GLA1100032379) (2002).

Appendix H London Underground Asset Power Plans

R2515/36

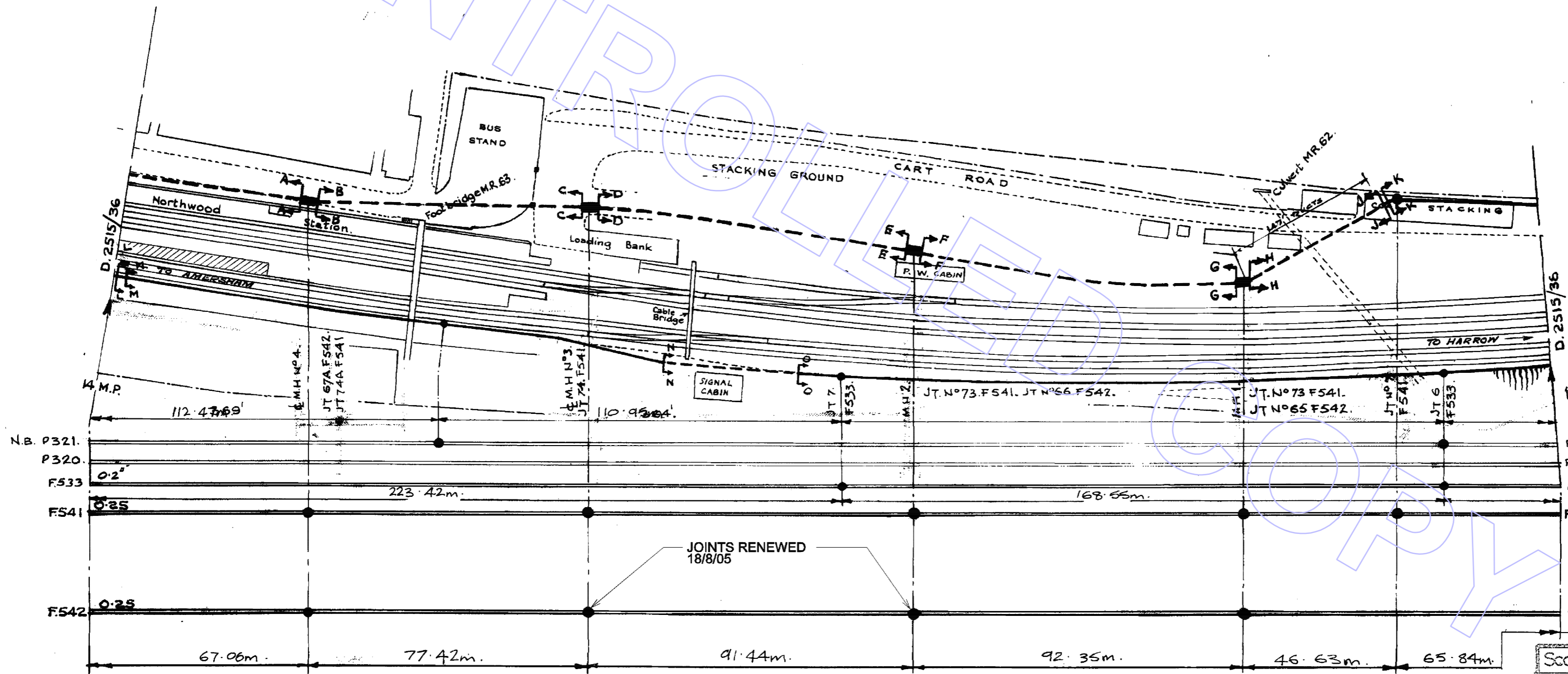
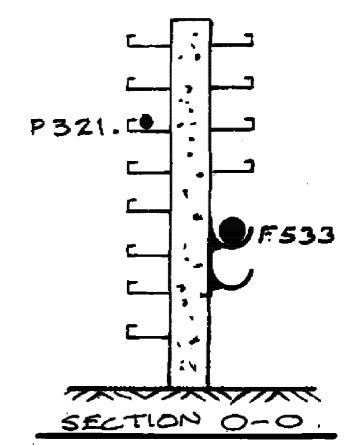
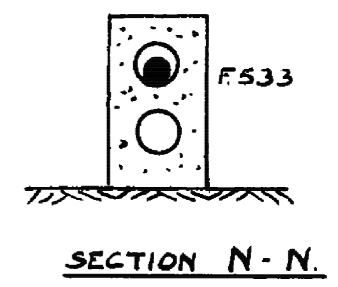
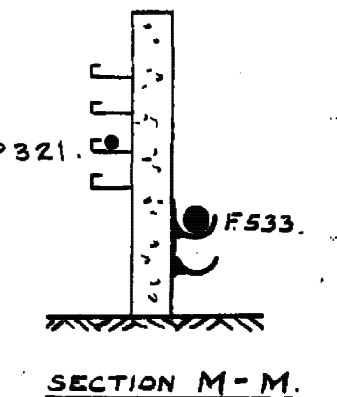
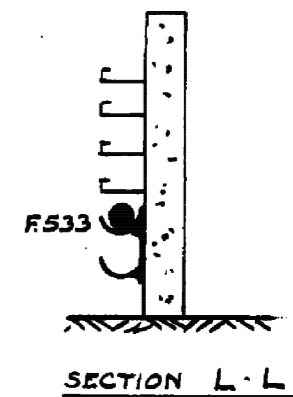
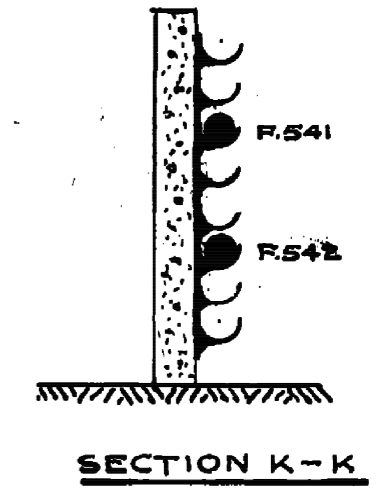
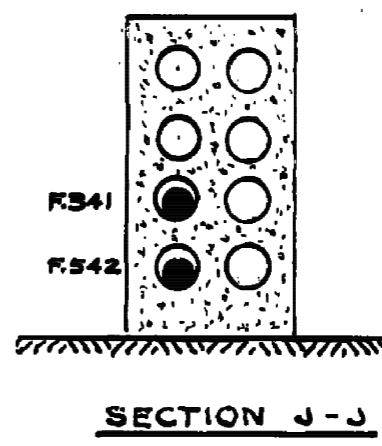
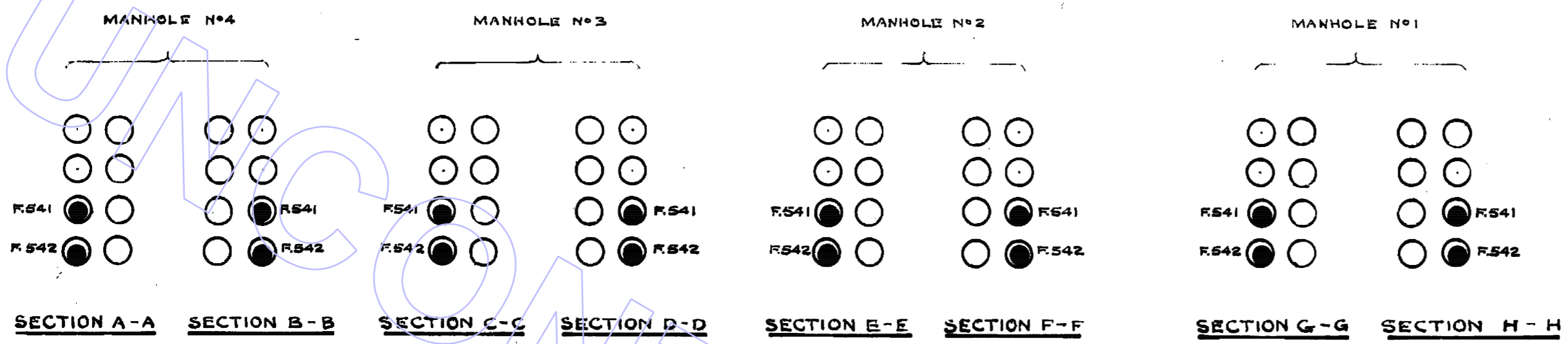
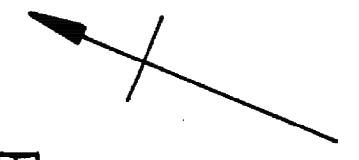


1	31.7.61	3	21.7.65	5	2-10-87
2	10.6.62	4	14.9.65	6	23-1-92
Pilot #1 revised		Revised		P. 916, P. 87A, P. 86A & P. 85A REMOVED	

— METROPOLITAN LINE —
 — HARROW TO AMERSHAM. — 14 — 1 1/4 MP.

Scale: 88 ft = 1 inch.
 Drawn: A. LONDON UNDERGROUND Ltd.
 Checked: POWER & ELECTRICAL ENG.
 Approved: 139 Long Acre,
 Date: 23/1/92. London WC2E 9AD.
 R.2515/36. Rev: 6

Client: Maintenance Eng (Power)



1	31.7.61	3	3.10.62	5	13.9.65	7	7.3.77	9	23.1.92	10	28/02/07
Revised to date		P321 N° revised.		F542 J. N° 67A added		Track Layout brought up to date P.W. cabin shown. D.F.		P. 91B, P. 37A, P. 96A, P. 85A REMOVED. D.R.		Note: Joint Renewed added.	
2	6.9.61	4	21.7.65	6	8.1.71	8	8.10.87	App. By: A.B			
J. N° 17A added. P321 added in M.N.S. 2 and 3.		F533 added.		F541 J. N° 74A added.		P320, P321 ADDED.					

— METROPOLITAN LINE. —
— HARROW TO AMERSHAM. —

13 3/4 — 14 MP.

Scale: 88 ft = 1 inch.

Drawn: [Signature] LONDON UNDERGROUND Ltd.

Checked: POWER & ELECTRICAL ENG

Approved: 139 Long Acre, London WC2E 9AD.

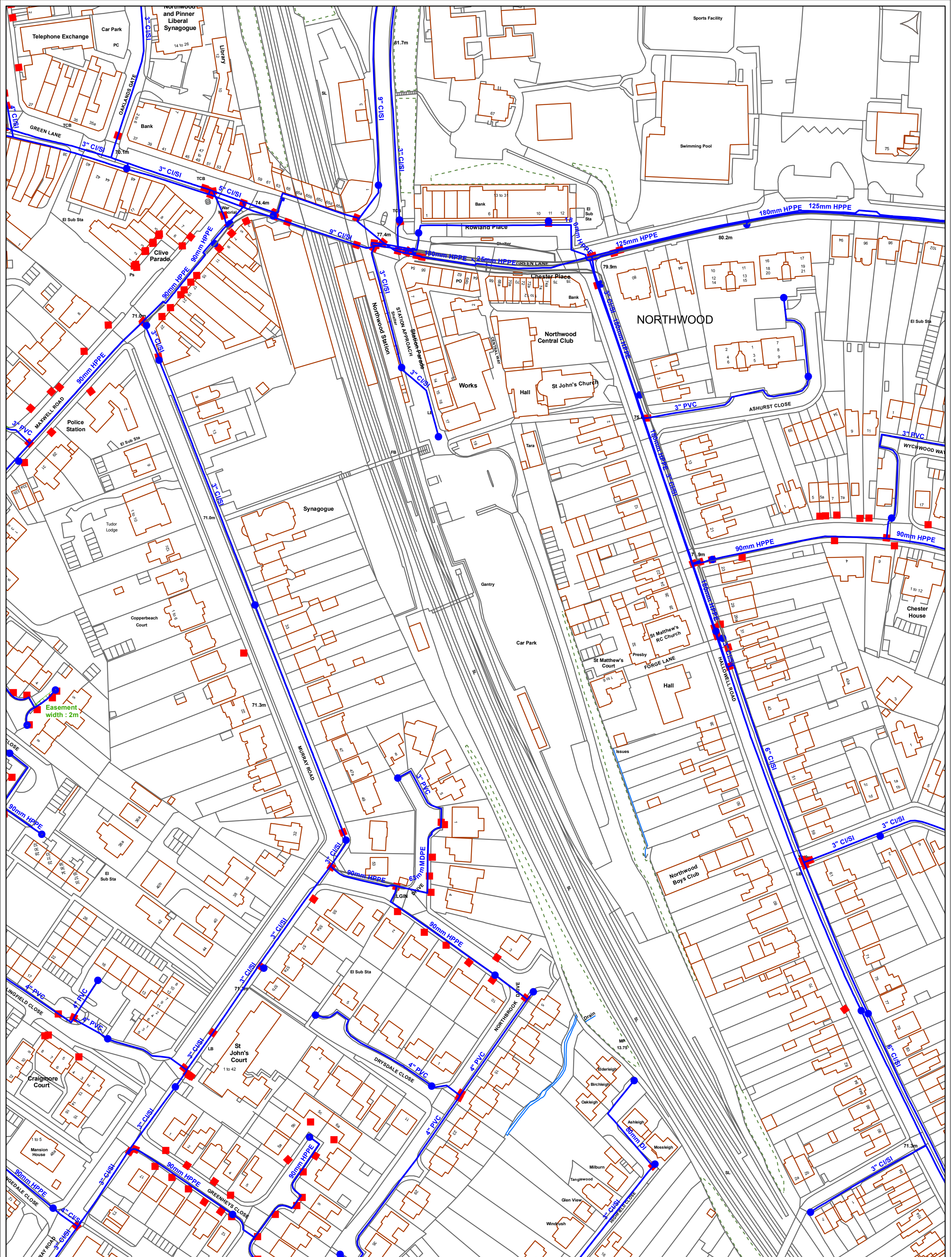
Date: 17/11/92.

No R.2515/37.

Rev: 10

Clients Maintenance Eng (Power.)

Appendix I Affinity Water – Water Mains Plan



© Affinity Water Limited. Based upon the Ordnance Survey map by Affinity Water Limited with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office. © Crown copyright Affinity Water licence number 100053744. Plans are the property of Affinity Water Limited and may not be reproduced or distributed in any form (or any part) without the written permission of Affinity Water Limited.

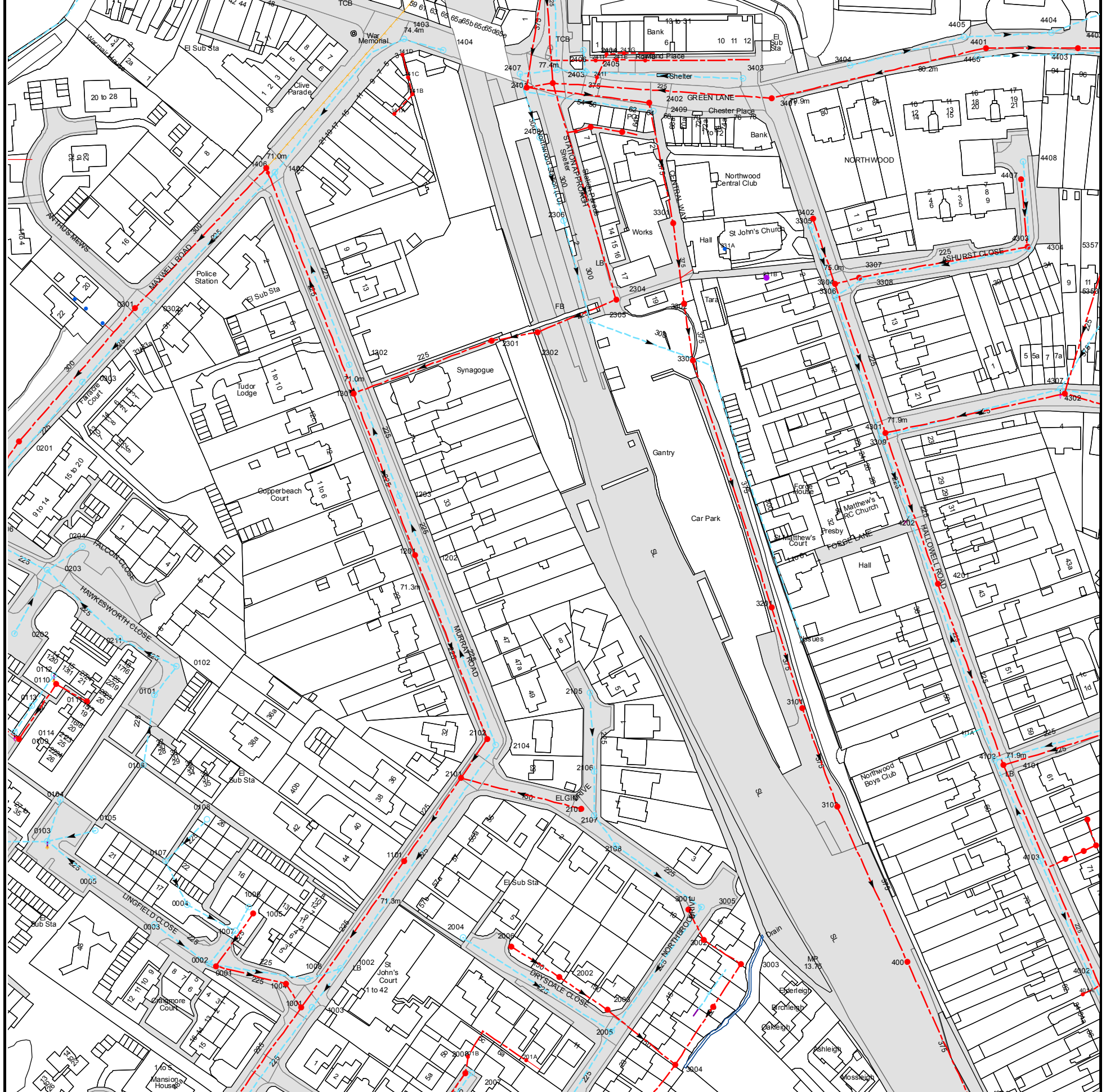
Plans are continuously being updated, so out of date plans should be destroyed and not relied upon. The position of apparatus shown on this plan is provided for guidance only and should not be relied upon as being precise. Therefore the Company accepts no responsibility in the event of inaccuracy. Service pipes are not necessarily shown on this plan. Cover is normally 915mm for mains and 750mm for communication pipes but this may vary. The actual position of apparatus must be determined on site by making hand dug trial holes. The Company requires a minimum of two working days notice of the intention to excavate trial holes.

Except where prior written permission has been obtained, it is an offence under Section 174 of the Water Industry Act 1991 to operate or interfere with any valves, hydrants or other apparatus vested in Affinity Water.



	Distribution Main		Hydrant
	Asbestos Distribution Main		Fitting
	Abandoned Main		Easement
	Asbestos Abandoned Main		Company Boundary
	Adit / Tunnel		
	Cable		

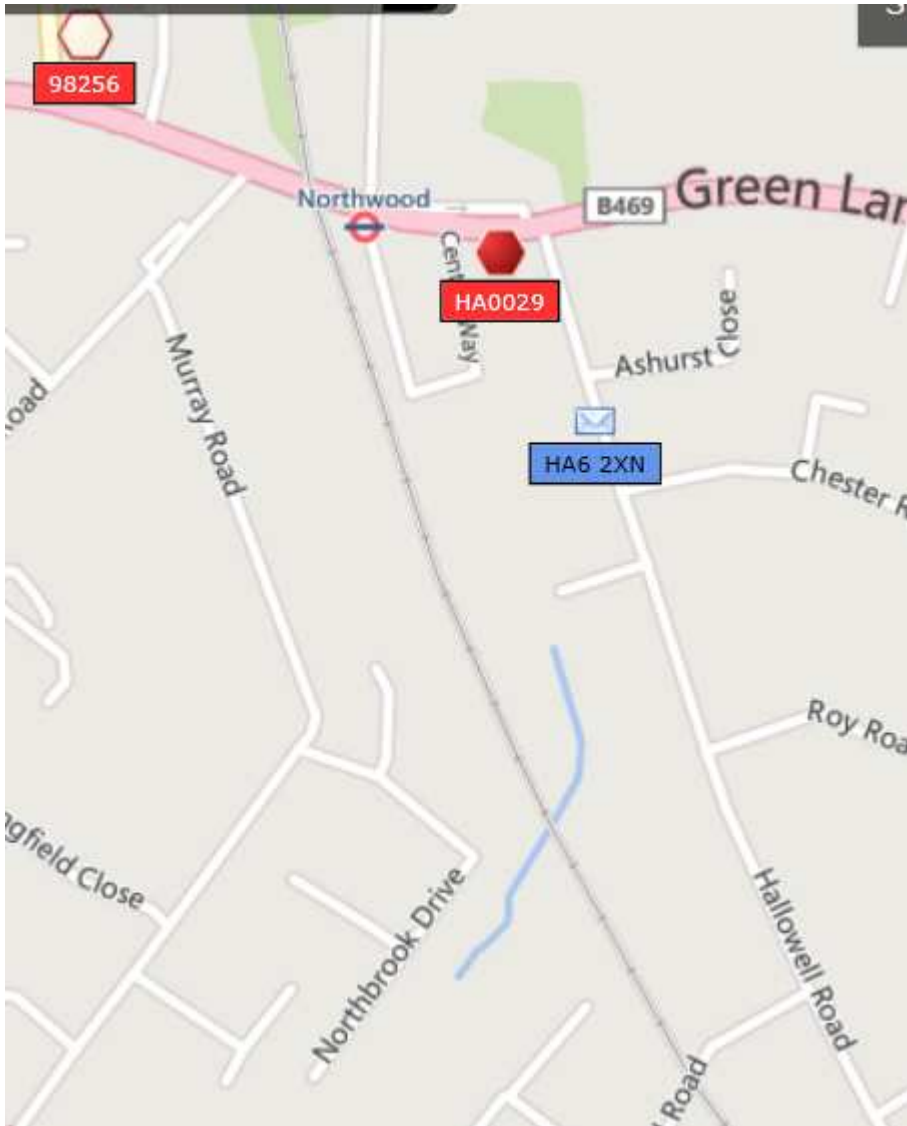
Appendix J Thames Water – Sewers Plan



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 509250,191250
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

Appendix K MBNL – Telecoms Plan



Kind Regards

Anthony

Anthony Eyre
Consultant

Turner & Townsend

t: +44 (0) 121 262 1100|

<http://www.turnerandtowntsend.com>

From: Debbie Miller [mailto:DMiller@groundwise.com]

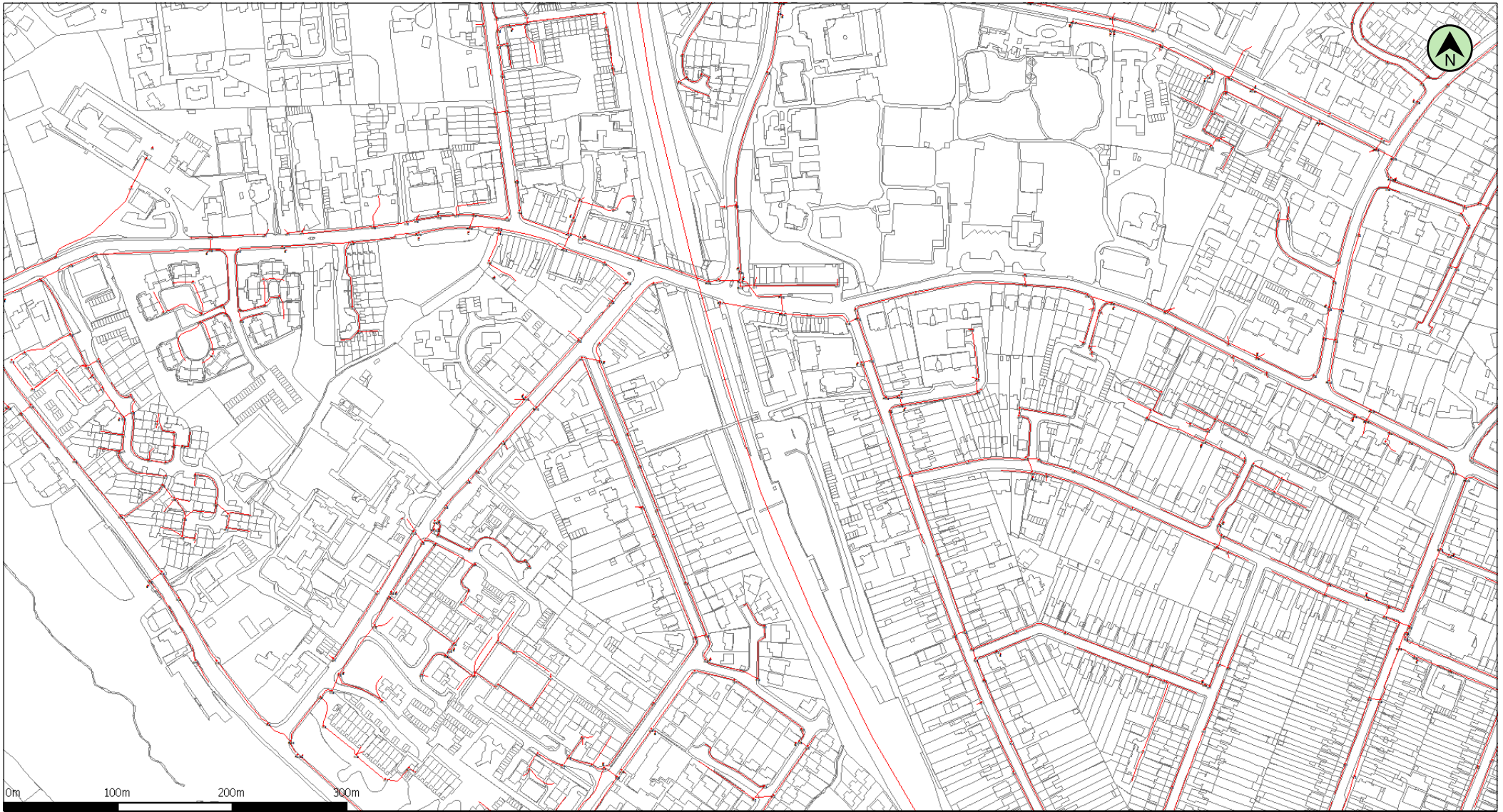
Sent: 15 May 2015 10:19

To: plantenquiries@energetics-uk.com; osm.enquiries@atkinglobal.com; highwaysadmin@kcom.com; plantenquiries@mcnicholas.co.uk; plantenquiries@instalcom.co.uk; osp-team@uk.verizonbusiness.com; interoute.enquiries@plancast.co.uk; telenttelia.plantenquiries@telent.com; lorraine.mccarthy@eonenergy.com; safeguarding@crossrail.co.uk; LULHVpowerassets@tfl.gov.uk; plantenquiries@psgservices.co.uk; locationenquiries@tube.tfl.gov.uk; plantenquiries@tfl.gov.uk; FPLplantprotection@fulcrum.co.uk; plant.enquiries@cityfibre.com; plantenquiries@catelecomuk.com; NRSWA@bskyb.com; OPBuriedServicesEnquiries@networkrail.co.uk; mbnlplantenquiries@turntown.com; plantenquiries@trafficmaster.co.uk; loip@tfl.gov.uk; DIOODC-LMSSE3@mod.uk; searches@thameswater.co.uk; asset.informationteam@affinitywater.co.uk

Subject: Ref: 15969DM - Site : At Northwood Station, Green Lane, Northwood, Greater London, HA6 2XN

Ref: 15969DM

Appendix L Virgin Media – Telecoms Plan



(c) Crown Copyright and database rights 2011 Ordnance Survey 100019209

Date: 11/06/15

Scale: 1:4715

Map Centre: 509264,191368

Data updated: 01/05/15

Telecoms Plan A4

Important Information - please read

The purpose of this plan is to identify Virgin Media apparatus. We have tried to make it as accurate as possible but we cannot warrant its accuracy. In addition, we caution that within Virgin Media apparatus there may be instances where mains voltage power cables have been placed inside green, rather than black ducting. Further details can be found using the 'Affected Postcodes.pdf', which can be downloaded from this website.

Therefore, you must not rely solely on this plan if you are carrying out any excavation or other works in the vicinity of Virgin Media apparatus. The actual position of any underground service must be verified by cable detection equipment, etc. and established on site before any mechanical plant is used. Accordingly, unless it is due to the negligence of Virgin Media, its employees or agents, Virgin Media will not have any liability for any omissions or inaccuracies in the plan or for any loss or damage caused or arising from the use of and/or any reliance on this plan.

This plan is produced by Virgin Media Limited from Ordnance Survey © Crown Copyright 100019209

Duct, Trench



Chamber



Cabinet



alasonjennifer.nathan@virginmedia.co.uk

VM.119645



Nichole Pau
Buro Happold Limited
17 Newman Street
London
W1T 1PD
UK

T: +44 (0)207 927 9700

F: +44 (0)870 787 4145

Email: Nichole.Pau@BuroHappold.com