

DATUM NOTES

GRID IS BASED UPON SURVEY STATION 1, FIXED TO THE ORDNANCE SURVEY NATIONAL GRID BY GPS SATELLITE ACTIVE NETWORK.
LEVELS ARE RELATED TO THE ORDNANCE SURVEY GPS ACTIVE NETWORK AND TRANSFORMED USING THE OSGB36 & OS1515 MODEL.
SITE BENCH MARK USED IS LOCATED AT:-
STATION 1
VALUE GIVEN AS 101.468m
NG REF 518828.05SE 192716.34HN
SURVEY CONTROL STATIONS SHOWN

ABBREVIATIONS (where applicable)

AV	Air Valve	MH	Manhole Cover
BL	Brick	MS	Mast
BS	Bollard	MS	Milestone
BT	British Telecom	MY	Mercury
CB	Control Box	PS	Post
C/B	Close Boarded	PS	Post Box
CD	Cable	PE	Pipe
CL	Chainlink	P/R	Parting Water
CP	Concrete	PT	Post and Rail
CPS	Concrete Paving Slabs	RE	Roading Eye
CTV	Cable Television	RET	Retaining
BC	Drainage Channel	RS	Road Strip
BP	Drain Type	RSJ	Roller Steel Joist
EC	Electricity Cover	SC	Stop Dock
ECB	Electricity Box	SK	Skewey
FL	Fence	SP	Support
FN	Fire Hydrant	ST	Stop
FL	Floor Level	SV	Stop Valve
FP	Flag Pole	SV	Stop Valve
GP	Gate Post	TB	Telephone Call Box
GV	Gas Valve	TL	Trunk
GV/S	Gas Gully	TL	Traffic Light
HT	Height	TP	Telephone Pole
IC	Inspection Cover	UG	Underground
IL	Iron Level	UTL	Unable To Trace Further
IN	Interceptor	UTL	Unable To Lift
I/P	Iron Paving	VP	Water Pipe
KB	Kerb Duct	WL	Water Level
LB	Litter Bin	WM	Water Meter
LP	Lamp Post	WD	Wash But

NOTES

- Drainage pipe sizes (where shown) have been gauged from the surface for safety reasons and should be regarded as approximate only.
- Tree species (where shown) should be treated with caution and expert identification is advised.
- Although this is a digital survey the accuracy and amount of detail shown is only commensurate with the graphical scale of mapping as specified. Care should be exercised when working to larger scales.
- Visible features in the vicinity of the boundaries as shown above, may not represent the extent of highly congested areas.
- While every effort has been made to achieve accuracy on this plan, CRITICAL dimensions, distances, areas and level levels should be checked prior to design the construction.
- Kerb levels have been taken in the bottom of the channel.
- Areas of dense undergrowth cannot be surveyed in detail. These areas will be shown in outline only and marked as 'dense undergrowth' on the plan.

SHEET LAYOUT

NOT TO SCALE

LAND ADJACENT TO,
EATON CLOSE
HARROW
HA5 3TP

TOPOGRAPHICAL SURVEY
UNDERGROUND SERVICES TRACE
& GPR SURVEY

SURVEYED FOR HARROW COUNCIL
CIVIC CENTRE
STATION ROAD
HARROW
HA1 2YT

SURVEYOR AC
DATE MARCH 2020

NO DATE REVISION

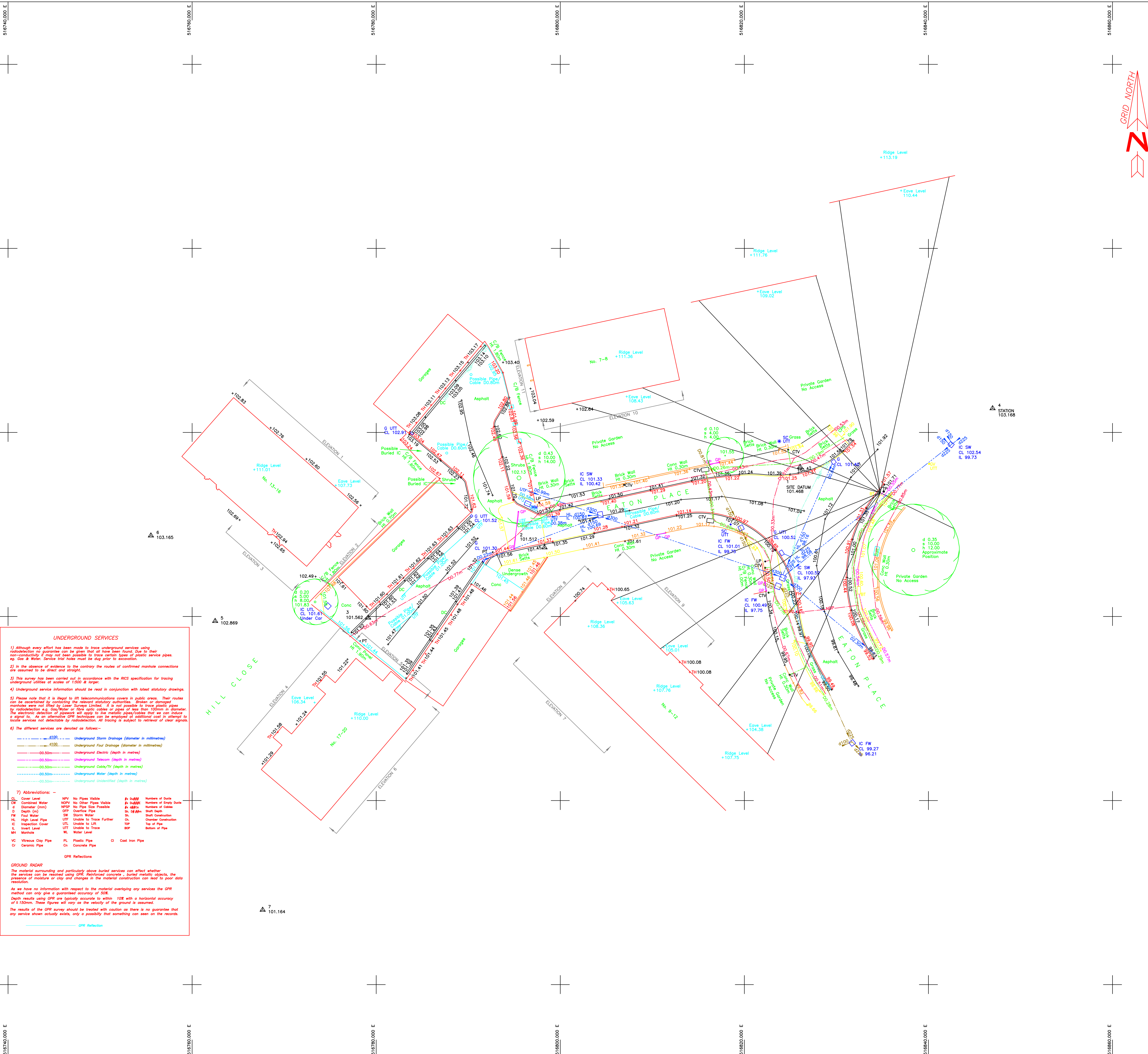
DRAWING NO L9700-2 T2D REV 0

SCALE 1 : 200 @ A1

SEE ALSO DWG NOS L 9700-1-5 T&E

SHEET 1 of 2

REF NO L 9700



UNDERGROUND SERVICES

- Although every effort has been made to trace underground services using radio-detection no guarantee can be given that all have been found. Due to their non-conductivity it may not be possible to trace certain types of plastic service pipes, eg Gas & Water. Service that holes must be dug prior to excavation.
- In the absence of evidence to the contrary the routes of confirmed manhole connections are assumed to be direct and straight.
- This survey has been carried out in accordance with the RICS specification for tracing underground utilities at scales of 1:500 & larger.
- Underground service information should be read in conjunction with latest statutory drawings.
- Please note that it is illegal to lift telecommunications covers in public areas. Their routes can be ascertained by contacting the relevant statutory authorities. Broken or damaged manholes were not fixed by Laser Surveys Limited. It is not possible to trace plastic pipes by radio-detection e.g. Sewer or flow water under a depth of less than 100mm in diameter. The electronic detection of services will depend on the material properties that we can induce a signal to. As an alternative GPR techniques can be employed at additional cost in attempt to locate services not detectable by radio-detection. All tracing is subject to retrieval of clear signals.
- The different services are denoted as follows:-
 - 100 --- Underground Storm Drainage (diameter in millimetres)
 - 100 --- Underground Fuel Drainage (diameter in millimetres)
 - 0.50m --- Underground Electric (depth in metres)
 - 0.50m --- Underground Telecom (depth in metres)
 - 0.50m --- Underground Cable/TV (depth in metres)
 - 0.50m --- Underground Water (depth in metres)
 - 0.50m --- Underground Unidentified (depth in metres)
- Abbreviations:-

CL	Cover Level	NPV	No Pipe Visible	#	Duff	Numbers of Ducts
CP	Combined Water	NPV	No Other Pipes Visible	#	Duff	Numbers of Empty Ducts
D	Diameter (mm)	NPSP	No Pipe Size Possible	#	dfc	Numbers of Cables
DP	Depth (m)	OPF	Overlaid Pipe	Sh	dfc	Depth
FW	Foul Water	SW	Storm Water	Sh	dfc	Shallow Construction
HL	High Level Pipe	UTL	Unable To Trace Further	Ch		Chamber Construction
IC	Inspection Cover	UTL	Unable To Lift	TOP		Top of Pipe
IL	Iron Level	UTL	Unable To Trace	Bot		Bottom of Pipe
MH	Manhole	WL	Water Level			
VC	Vitreous Clay Pipe	PL	Plastic Pipe	CI		Cast Iron Pipe
Gr	Ceramic Pipe	Cn	Concrete Pipe			

GPR Reflections

The material surrounding and particularly above buried services can affect whether the services can be resolved using GPR. Reinforced concrete, buried metallic objects, the presence of moisture or clay and changes in the material construction can lead to poor data resolution.
As we have no information with respect to the material overlaying any services the GPR method can only give a generalised accuracy of 50cm.
Depth results using GPR are typically accurate to within 10cm with a horizontal accuracy of ±150mm. These figures will vary as the velocity of the ground is assumed.
The results of the GPR survey should be treated with caution as there is no guarantee that any service shown actually exists, only a possibility that something can be seen on the records.

GPR Reflection