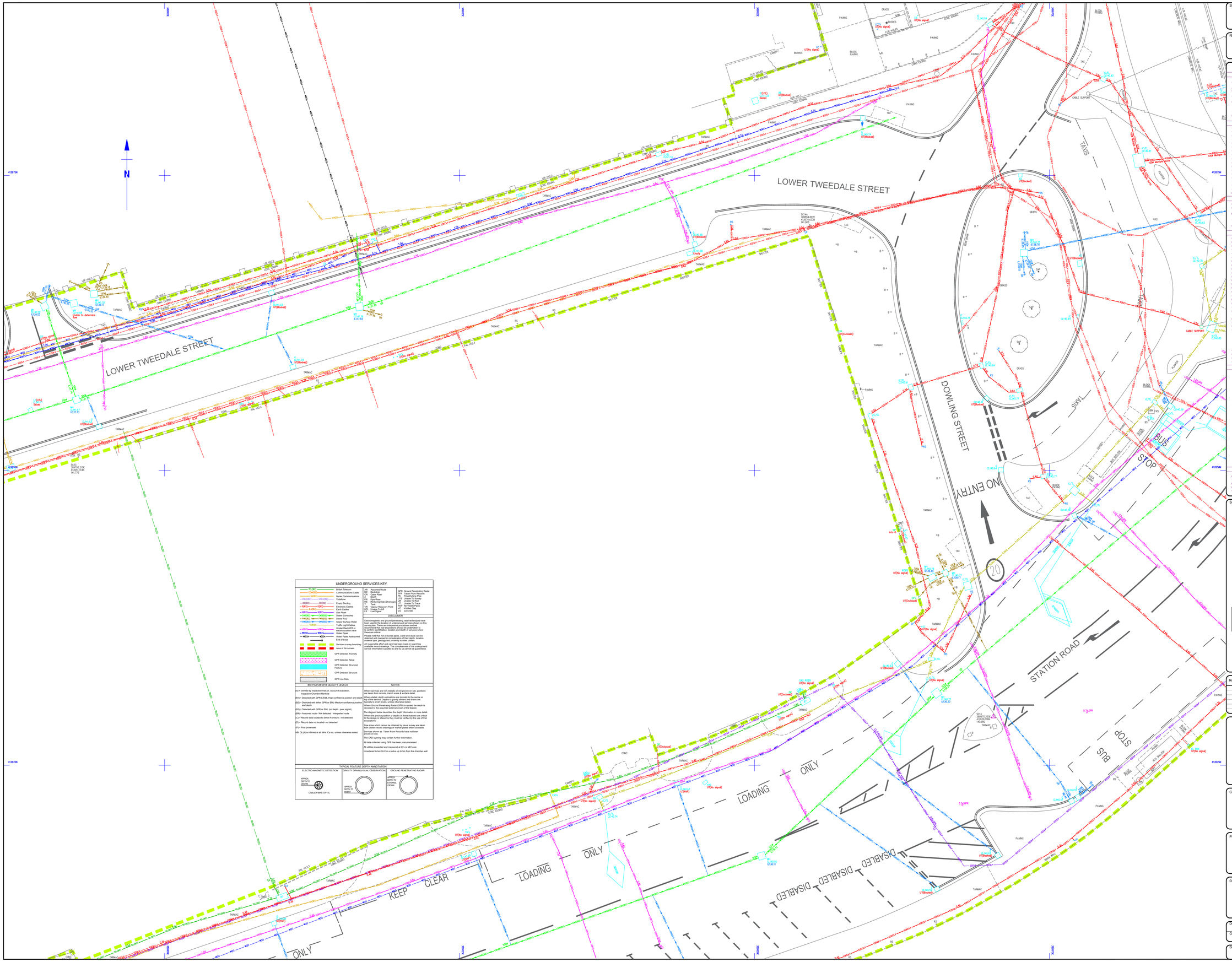


UNDERGROUND SERVICES KEY

TELEC	British Telecom
CABLE	Communications Cable
NCABLE	Nynex Communications
VDFONE	Vodafone
EDUCT	Empty Ducting
ESPELC	Electric Supply
EARTHC	Earth Cables
GERC	Gas Pipes
CWOCC	Sewer Combined
FWOCC	Sewer Foul
SWOCC	Sewer Surface Water
TLAMP	Traffic Light Cables
GPRC	Undentified GPR or Unknown location back
WSPC	Water Pipes
WSPA	Water Pipes Abandoned
	End of trace
	Services survey boundary
	Area of No Access
	GPR Detected Anomaly
	GPR Detected Rebar
	GPR Detected Structural Feature
	GPR Detected Structure
	GPR Low Data

AR : Assumed Route	GPR : Ground Penetrating Radar
CP : Cable Pole	TFR : Taken From Records
CR : Cable River	PE : Polyethylene Pipe
d : Depth	PVC : Polyvinyl Chloride
RW : Road Water	UR : Unable To Root
RS : Reducing Size (Drainage)	UT : Unable To Trace
T : Tank	LT : Line Trace
RP : Recovery Point	VC : Vitrified Clay
UTL : Unable To Lift	VCO : Vitrified Clay
LS : Lost Signal	CO : Concrete

DISCLAIMER

Electromagnetic and ground penetrating radar techniques have been used to locate the underground services shown on this survey plan. These are interpretive procedures and we recommend that trial excavations should be undertaken to confirm the presence, location and depth of services where these are critical.

Please note that not all buried pipes, cable and ducts can be located by these techniques and information on the location, material type, geology and proximity to other utilities.

All reasonable effort and care has been made in searching available record drawings. The completeness of the underground service information supplied to and by us cannot be guaranteed.

BSI PAS128:2014 QUALITY LEVELS	NOTES
(A) = Verified by Inspection-Inlet pit, vacuum Excavation, Inspection Chamber/Manhole	Where services are non-metallic or not proven on site, positions are taken from records, trench scans & surface detail.
(B1) = Detected with GPR & EML-High confidence position and depth	Where stated, depth estimations are typically to the centre or top of the feature. Pipe sizes are nominal & depths are typically to invert levels, unless otherwise stated.
(B2) = Detected with either GPR or EML-Medium confidence position and depth	Where Ground Penetrating Radar (GPR) is quoted the depth is recorded to the assumed external crown of the feature.
(B3) = Detected with GPR or EML (no depth - poor signal)	The diagram below describes the depth information in more detail.
(B4) = Assumed route - Not detected - interpreted route	Where the precise position or depths of these features are critical to the design we believe they must be verified by the use of trial excavations.
(C) = Record data located to Street Furniture - not detected	Pipe sizes which cannot be obtained by visual survey are taken from utilities record drawings or marker plates where available.
(D) = Record data not located- not detected	Services shown as 'Taken From Records have not been proven on site.
(F) = Post processed	The CAD layering may contain further information.
NB: QLAL is inferred at all MHs ICs etc. unless otherwise stated.	All data collected using GPR has been post-processed.
	All utilities inspected and measured at ICs or MH's are considered to be QLA for a radius up to 5m from the chamber wall

TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION	GRAVITY DRAIN (VISUAL OBSERVATION)	GROUND PENETRATING RADAR
APPROX. DEPTH TO CENTRE	APPROX. DEPTH TO INVERT	APPROX. DEPTH TO EXTERNAL CROWN
CABLE/FIBRE OPTIC		

Survey Notes

Grid: Local, plane metric related to OS grid

Levels: OS datum from GNSS solutions, converted using the National Geoid model OSGM15

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

Building; Building Open Sided; Ruin; Passage; Wall with Height; Retaining Wall

FENCE STYLES AND DESCRIPTIONS

Close Boarded; Corrugated Iron; Chestnut Paling; Chainlink; Handrail; Interwoven; Iron Railings; Lattice; Miscellaneous; Palisade; Post & Chain; Post & Rail; Post & Wire; Post & Barbed Wire; Wire mesh; Stile; Gate; Fence Breakpts

ROADS

Kerbs; Edge of Surfacing; Pedestrian Crossing; Track; Footpath

STREET FURNITURE

Bellaire Beacon; Bus Stop; Bollard; Cats Eye; Cast Chucks; Closed Circuit TV; Drain; Electricity Poles; Flood Light; Flag Staff; Lamp Post; Letter Box; Name Plate (street); Mooring Ring; Wire Post or Mooring Post; Service Marker; Wire Stone; Post; Parking Meter; Reflector Post; Rodding Eye; Road Sign; Speed Camera; Information Sign; Stoy; Traffic Light; Telegraph Pole; Traffic Light Push Button Post; Traffic Light Control; Pipe Sofit Level; Control Box; British Telecom Box; Electricity Box; Gas Box

INSPECTION CHAMBERS AND PIPES

Inspection Cover; Inspection Cover (Disc); Manhole; British Telecom Cover; Inspection Cover (Comms); Cable TV; Inspection Cover Traffic Signals; Gully; Kerb Outlet; Vent Pipe; Down Pipe; Rain Water Pipe; Soil Pipe; Gas Pipe; Unable to lift cover; Stop Tap; Stop Valve; Lamphole; Hydrant; Earth Rod; Gas Valve; Water Meter; Washout; Rodding Eye

GEOTECHNICAL INFORMATION

Borehole; Trial Pit; Monitor Pin; Probe Hole; Window Sample

GENERAL INFORMATION

Petrol Pump; Basement Light; Footbridge; Dish Type Channel; Slot Type Channel; Grille Type Channel; Tactile Paving; Crash Barrier; Guardrail; Gravestone; Car Vacuum; Offset FH; Air Valve; Trough; Chimney; Telephone Call Box

OVERHEAD FEATURES

Electricity Pylon; Electricity; Telephone

WATER FEATURES

Canal; Stream; Ditch; River; Culvert; Strip (Land Drain); Spring

RELIEF AND VEGETATION

Hedge; Edge of wood/Bushes; Stump; Individual Tree; Slopes with Height Greater than 1m; Cliff Face; Marsh; Reeds

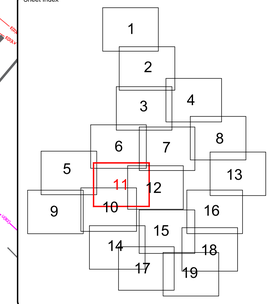
LEVEL AND HEIGHT INFORMATION

Standard Spot Height; Precision Spot Height; Bed Level; Water Level; Soffit Level; Threshold Level; Cover Level; Invert Level; Pipe Soffit Level; Floor Level; Finished Floor Level; Top of Tank Level; Eave Level; Ridge Level; Bottom Up Level; Flat Roof Level; Top of Canopy Level; Underside of Canopy Level; Window Sill Level; Window Head Level; Springing Level; Arch Level; Cable Level; Top of Wall Level; Underside of Beam Level; General Height

SURVEY INFORMATION SIGNS

Permanent Ground Marker; O.S. Trig Station; O.S. Bench Mark

Sheet Index



Rev.	Date	Description

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Accreditations: RICS; The Survey Association; RICS; Electrical Safety First; CIPHE

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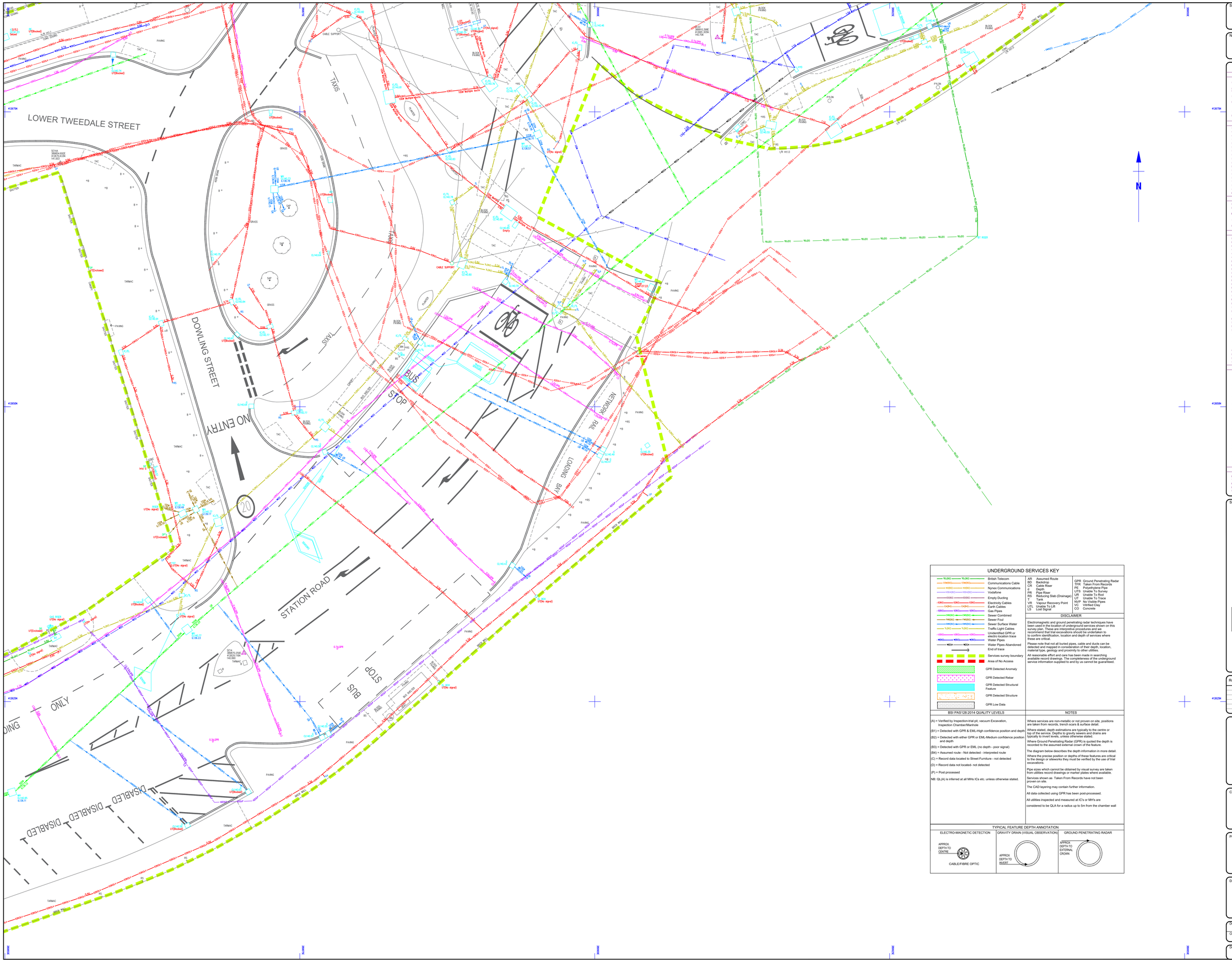
Project
ROCHDALE STATION SQUARE
OL11 1DS

Drawing Title
UNDERGROUND SERVICES
SURVEY
SHEET 11/19

Drawn By	PS	04/08/21	Survey Date: APRIL 2021
Checked by	ED	04/08/21	Scale: A0@1:100

Drawing No: 56653/UG11

Revision:



Survey Notes

Grid: Local, plane metric related to OS grid

Levels: OS datum from GNSS positioning, converted using the National Geoid model OSGM15

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

Building
Building Open Sided
Ruin (RUIN)
Passage
Wall with Height (WALL HGT 3m)
Retaining Wall (R/W)

FENCE STYLES AND DESCRIPTIONS

Close Boarded C/B
Corrugated Iron C/I
Chestnut Paling C/P
Chainlink C/L
Handrail H/R
Interwoven IWK
Iron Railings I/R
Lattice L/T
Miscellaneous Misc
Palisade P/AL
Post & Chain P/C
Post & Rail P/R
Post & Wire P/W
Post & Barbed Wire B/W
Wire mesh W/M
Stile
Gate
Fence Breakpe

ROADS

Kerbs
Edge of Surfacing
Pedestrian Crossing (PED CROSS)
Track (TRACK)
Footpath (FOOTPATH)

STREET FURNITURE

Bellaire Beacon
Bus Stop BS
Bollard B
Cats Eye CE
Coal Chute CC
Closed Circuit TV CCTV
Drain DR
Electricity Pole EP
Flood Light FL
Flag Staff FS
Lamp Post LP
Letter Box LB
Name Plate (street) NP
Working Ring MR
Wire Post or Mooring Post MP
Service Marker MK
Mile Stone MS
Post P
Parking Meter PM
Reflector Post RP
Rodding Eye RE
Road Sign RS
Speed Camera S/CAM
Information Sign SIGN
Stay ST
Traffic Light TL
Telegraph Pole TP
Traffic Light Push Button Post TLP
Traffic Light Control TLC/P
Control Box C/BOX
British Telecom Box BT BOX
Electricity Box EL BOX
Gas Box GAS BOX

INSPECTION CHAMBERS AND PIPES

Inspection Cover IC
Inspection Cover (Elec) IC/EL
Manhole MH
British Telecom Cover BT
Inspection Cover (Comms) IC/COM
Cable TV IC/CATV
Inspection Cover Traffic Signals IC/TL
Gully G
Kerb Outlet KO
Vent Pipe VP
Down Pipe DP
Rain Water Pipe RWP
Soil Pipe SVP
Gas Pipe G-PIPE
Unable to lift cover U/L
Stop Tap ST
Stop Valve SV
Lamphole LH
Hydrant HYD
Earth Rod ER
Gas Valve GV
Water Meter WM
Washout WO
Rodding Eye RE

GEOTECHNICAL INFORMATION

Borehole BH
Trial Pit TP
Monitor Pin MON
Probe Hole PH
Window Sample WS

GENERAL INFORMATION

Petrol Pump PP
Basement Light BL
Footbridge
Dish Type Channel
Slot Type Channel
Grille Type Channel
Tactile Paving TAC
Crash Barrier C/BR
Bollard
Downpipe DP
Car Vacuum
Offset F/B
Air Valve AV
Trough
Chimney CHY
Telephone Call Box TCB

OVERHEAD FEATURES

Electricity Pylon E.PYLON
Electricity
Telephone

WATER FEATURES

Canal
Stream
Ditch
River
Weir
Culvert
Drip (Canal Drain)
Spring SPR

RELIEF AND VEGETATION

Hedge
Edge of wood/Bushes
Stump STUMP
Individual Tree
Slopes with Height Greater than 1m
Cliff Face
Marsh
Reeds

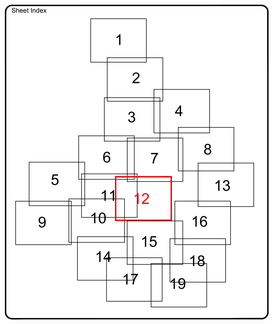
LEVEL AND HEIGHT INFORMATION

Standard Spot Height +123.45
Precision Spot Height +123.456
Bed Level +BL23.50
Water Level +WL24.32
Sluice Level +SL25.82
Threshold Level +THR.98
Cover Level +CL86.45
Invert Level +IL25.15
Pipe Sluice Level +PSL5.00
Floor Level +FL6.00
Finished Floor Level +FFL6.00
Top of Tank Level +TT7.00
Eave Level +EL6.00
Ridge Level +RL8.00
Top of Wall Level +TWL8.50
Flat Roof Level +FRL7.00
Top of Canopy Level +TOP/C7.00
Underside of Canopy Level +SOF/C6.50
Window Sill Level +WSL8.00
Window Head Level +WHL9.00
Springing Level +SPL8.50
Arch Level +ALT.00
Cable Level +CHTB.00
Top of Wall Level +TWL10.00
Underside of Beam Level +UBL9.55
General Height +HTB.00

SURVEY INFORMATION SIGNS

Permanent Ground Marker
O.S. Trig Station
O.S. Bench Mark

Sheet Index



Rev.	Date	Description

UNDERGROUND SERVICES KEY

YELCN1 YELCN2	British Telecom
CNCN1 CNCN2	Communications Cable
NXC1 NXC2	Nynex Communications
VDA1 VDA2 VDA3	Vodafone
DUC1 DUC2 DUC3	Empty Ducting
CEC1 CEC2 CEC3	Electricity Cables
EAD1 EAD2 EAD3	Earth Cables
GS1 GS2 GS3	Gas Pipes
CWS1 CWS2 CWS3	Sewer Combined
FWS1 FWS2 FWS3	Sewer Foul
SWS1 SWS2 SWS3	Sewer Surface Water
TLC1 TLC2 TLC3	Traffic Light Cables
UC1 UC2 UC3	Unidentified GPR or electro location trace
WS1 WS2 WS3	Water Pipes
WSA WSA WSA	Water Pipes Abandoned
	End of trace
	Services survey boundary
	Area of No Access
	GPR Detected Anomaly
	GPR Detected Rebar
	GPR Detected Structural Feature
	GPR Detected Structure
	GPR Low Data

AR	Assumed Route
BD	Backdrop
CR	Cable Riser
d	Depth
PR	Pipe Riser
RS	Reducing Slab (Drainage)
T	Tank
VR	Vapour Recovery Point
LB	Load Bearing LB
LS	Load Signal

GPR	Ground Penetrating Radar
TFR	Taken From Records
PE	Polyethylene Pipe
UPR	Unable To Probe
UR	Unable To Root
UT	Unable To Trace
NVP	No Visible Pipes
VC	Vitrified Clay
CO	Concrete

DISCLAIMER

Electromagnetic and ground penetrating radar techniques have been used in the location of underground services shown on this survey plan. These are interpretive procedures and we recommend that trial excavations should be undertaken to to confirm identification, location and depth of services where these are critical.

Please note that not all buried pipes, cable and ducts can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities.

All reasonable effort and care has been made in searching available record drawings. The completeness of the underground service information supplied to and by us cannot be guaranteed.

BSI PAS128:2014 QUALITY LEVELS

(A) = Verified by Inspection-trial pit, vacuum Excavation, Inspection Chamber/Manhole

(B1) = Detected with GPR & EML-High confidence position and depth

(B2) = Detected with either GPR or EML-Medium confidence position and depth

(B3) = Detected with GPR or EML (no depth - poor signal)

(B4) = Assumed route - Not detected - interpreted route

(C) = Record data located to Street Furniture - not detected

(D) = Record data not located- not detected

(P) = Post processed

NB: QLA(a) is inferred at all MHs ICs etc. unless otherwise stated.

NOTES

Where services are non-metallic or not proven on site, positions are taken from records, trench scans & surface detail.

Where stated, depth estimations are typically to the centre or top of the service. Depths to gravity sewers and drains are typically to invert levels, unless otherwise stated.

Where Ground Penetrating Radar (GPR) is quoted the depth is recorded to the assumed external crown of the feature.

The diagram below describes the depth information in more detail.

Where the precise position or depths of these features are critical to the design or siteworks they must be verified by the use of trial excavations.

Pipe sizes which cannot be obtained by visual survey are taken from utilities record drawings or marker plates where available.

Services shown as Taken From Records have not been proven on site.

The CAD layering may contain further information.

All data collected using GPR has been post-processed.

All utilities inspected and measured at IC's or MH's are considered to be QLA for a radius up to 5m from the chamber wall

TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION

APPROX. DEPTH TO CENTRE

CABLE/FIBRE OPTIC

GRAVITY DRAIN (VISUAL OBSERVATION)

APPROX DEPTH TO INVERT

GROUND PENETRATING RADAR

APPROX DEPTH TO EXTERNAL CROWN

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Client

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MANCHESTER M15 4RP

Project

ROCHDALE STATION SQUARE
OL11 1DS

Drawing Title

UNDERGROUND SERVICES
SURVEY
SHEET 12/19

Drawn By	PS 04/08/21	Survey Date	APRIL 2021
Checked by	ED 04/08/21	Scale	A0@1:100

Drawing No: 56653/UG12

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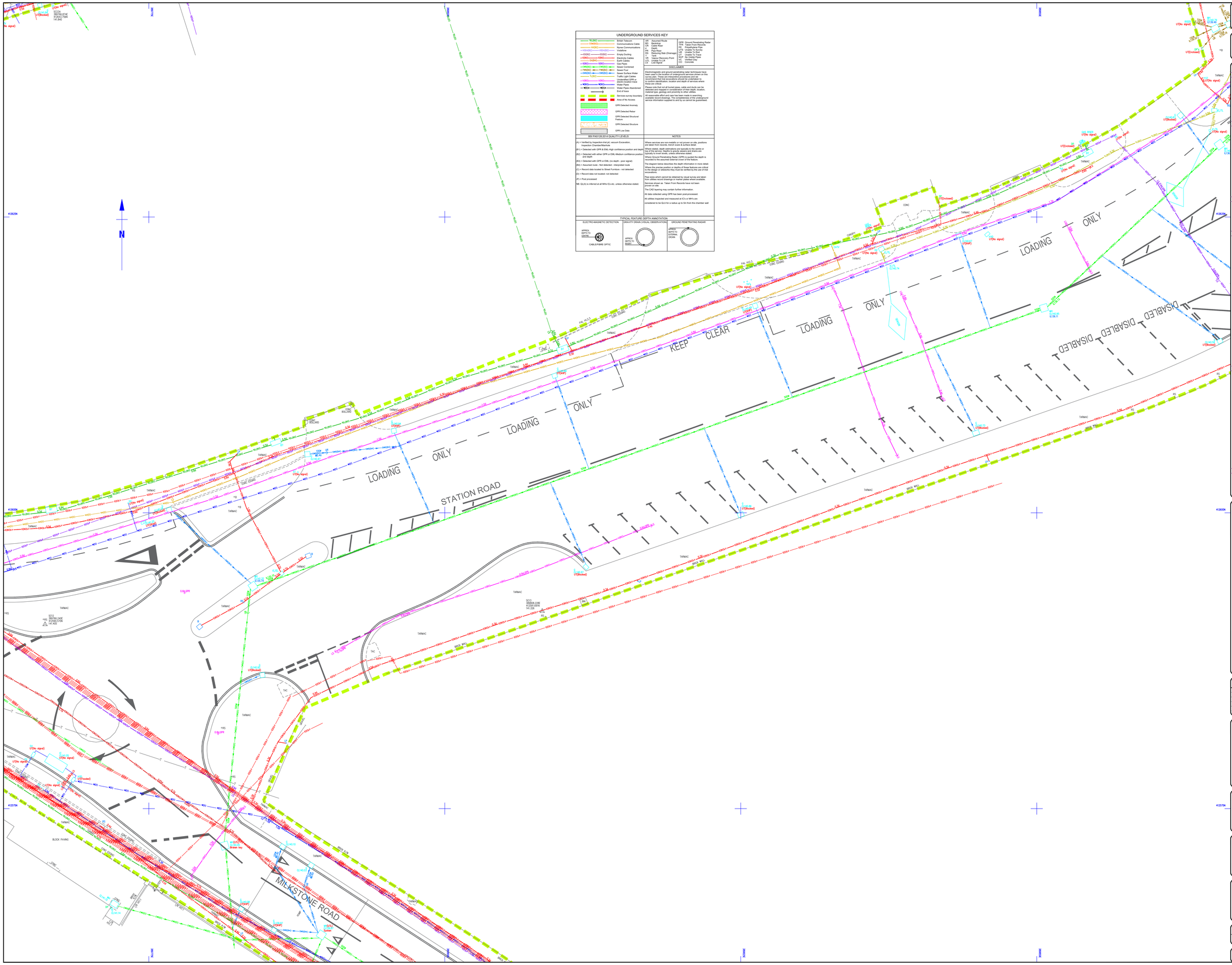

UNDERGROUND SERVICES KEY

TEL(BT)	British Telecom
COM(CE)	Communications Cable
NY(NC)	Nynex Communications
VIA(VIA)	Viatelline
EDI(EI)	Empty Ducting
ELEC(E)	Electricity Cables
CATV(CV)	Cable TV Cables
GAS(G)	Gas Pipes
CWS(CS)	Sewer Combined
FWS(FS)	Sewer Foul
SWS(SS)	Sewer Surface Water
TL(TL)	Traffic Light Cables
UNK(U)	Unclassified GPR Line
WS(W)	Water Pipes
WS(W)	Water Pipes Abandoned
	End of trace
	Services survey boundary
	Area of No Access
	GPR Detected Anomaly
	GPR Detected Rebar
	GPR Detected Structural Feature
	GPR Detected Structure
	GPR Low Data

LST : Assumed Route	GPR : Ground Penetrating Radar
BD : Backdrop	PVC : Polyvinyl Chloride
CR : Cable Riser	PE : Polyethylene Pipe
CD : Conduit	UTS : Unable To Survey
PS : Pipe Riser	UTL : Unable To Lift
RS : Retaining Side (Drainage)	LIT : Unable To Trace
TANK : Tank	NVP : No Visible Pipes
VR : Vapour Recovery Point	BRK : Brick Pipe
LP : Light Pole	CO : Concrete
LS : Lost Signal	

DISCLAIMER

Electromagnetic and ground penetrating radar techniques have been used to locate the underground services as shown on this survey plan. These are interpretive procedures and are dependent on several factors including the ground conditions, to confirm identification, location and depth of services where possible, we dig trial holes.

Please note that not all buried pipes, cables and ducts can be detected and mapped in consideration of their depth, location, material type, geology and proximity to other utilities.

All reasonable effort and care has been made in searching records and plotting the information from the underground service information supplied to and by us cannot be guaranteed.

BSI PAS128:2014 QUALITY LEVELS

(A) = Verified by Inspection-trial pit, vacuum Excavation, Inspection Chamber/Manhole

(B1) = Detected with GPR & EML High confidence position and depth

(B2) = Detected with either GPR or EML Medium confidence position and depth

(B3) = Detected with GPR or EML (no depth - poor signal)

(B4) = Assumed route - Not detected - interpreted route

(C) = Record data located to blind Furniture - not detected

(D) = Record data not located- not detected

(P) = Post processed

NB: QL(A) is inferred at all MHs ICs etc. unless otherwise stated.

NOTES

Where services are non-metallic or not proven on site, positions shown are based on the best data available.

Where stated, depth estimations are typically to the centre or top of the service. Depths to gravity sewers and drains are typically to invert levels, unless otherwise stated.

Where Ground Penetrating Radar (GPR) is quoted the depth is to the top of the feature, unless otherwise stated.

The diagram below describes the depth information in more detail.

Where the precise position or depths of these features are critical to the design or sitework they must be verified by the use of trial holes.

Pipe sizes which cannot be obtained by visual survey are taken from utilities record drawings or market plans where available.

Services shown as Taken From Records have not been proven on site.

The CAD layering may contain further information.

All data collected using GPR has been post-processed.

All utilities inspected and measured at ICs or MHs are considered to be QLA for a radius up to 5m from the chamber wall

TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION: APPROX DEPTH TO CENTRE — CABLE/FIBRE OPTIC

GRAVITY DRAIN (VISUAL OBSERVATION): APPROX DEPTH TO INVERT

GROUND PENETRATING RADAR: APPROX DEPTH TO EXTERNAL CROWN

Survey Notes

Grid: Local, plane metric related to OS grid

Levels: OS datum from GNSS positioning, converted using the National Geoid model OSGM15

Notes

Topographical Survey Legend

BUILDINGS AND WALLS

Building; Building Under Dashed; Ruin; Passage; Wall with Height; Retaining Wall

FENCE STYLES AND DESCRIPTIONS

Close Boarded; Corrugated Iron; Chestnut Paling; Chainlink; Handrail; Interwoven; Iron Railings; Lattice; Miscellaneous; Palisade; Post & Chain; Post & Rail; Post & Wire; Post & Barbed Wire; Wire mesh; Stile; Gate; Fence Sheet/pa

ROADS

Kerbs; Edge of Surfacing; Pedestrian Crossing; Track; Footpath

STREET FURNITURE

Bellaire Beacon; Bus Stop; Bollard; Cats Eye; Cast Chuckle; Closed Circuit TV; Drain; Electricity Pole; Flood Light; Flag Staff; Lamp Post; Letter Box; Name Plate (street); Mooring Ring; Mile Post or Mooring Post; Service Marker; Mile Stone; Post; Parking Meter; Reflector Post; Reading Eye; Road Sign; Speed Camera; Information Sign; Stay; Traffic Light; Telegraph Pole; Traffic Light Push Button Post; Traffic Light Control; Control Box; British Telecom Box; Electricity Box; Gas Box

INSPECTION CHAMBERS AND PIPES

Inspection Cover; Inspection Cover (Disc); Manhole; British Telecom Cover; Inspection Cover (Comms); Cable TV; Inspection Cover Traffic Signals; Gully; Kerb Outlet; Vent Pipe; Down Pipe; Rain Water Pipe; Soil Pipe; Gas Pipe; Unable to lift cover; Stop Tap; Stop Valve; Lamphole; Hydrant; Earth Rod; Gas Valve; Water Meter; Washout; Rodding Eye

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Petrol Pump; Basement Light; Footbridge; Dish Type Channel; Slot Type Channel; Grille Type Channel; Tactile Paving; Crash Barrier; Bollard; Downpipe; Car Vacuum; Offset Fill; Air Valve; Trough; Chimney; Telephone Call Box

OVERHEAD FEATURES

Electricity Pylon; Electricity; Telephone

WATER FEATURES

Canal; Stream; Ditch; Weir; Culvert; Strip (Land Drain); Spring

RELIEF AND VEGETATION

Hedge; Edge of wood/Bushes; Stump; Individual Tree; Slopes with Height Greater than 1m; Cliff Face; Marsh; Reeds

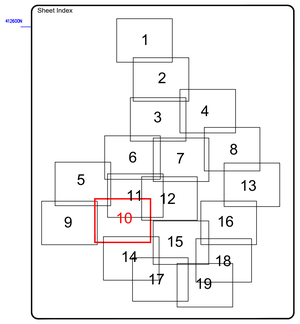
LEVEL AND HEIGHT INFORMATION

Standard Spot Height; Precision Spot Height; Bed Level; Water Level; Sluice Level; Threshold Level; Cover Level; Invert Level; Pipe Sluice Level; Floor Level; Finished Floor Level; Top of Tank Level; Eave Level; Ridge Level; Top of Wall Level; Flat Roof Level; Top of Canopy Level; Underside of Canopy Level; Window Sill Level; Window Head Level; Springing Level; Arch Level; Cable Level; Top of Wall Level; Underside of Beam Level; General Height

SURVEY INFORMATION SIGNS

Permanent Ground Marker; O.S. Trig Station; O.S. Bench Mark

Sheet Index



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Project
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Drawing Title
UNDERGROUND SERVICES
SURVEY
SHEET 10/19

Drawn By	PS	04/08/21	Survey Date: APRIL 2021
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Drawing No: 56653/UG10

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