


## UNDERGROUND SERVICES KEY

| | | | |
|---|---|---|---|
| CCTV / CABLE TELEVISION | TV(B1) | AR Assumed Route | GPR Ground Penetrating Radar |
| COMBINED DRAINAGE | CW(C) | BD Backdrop | TFR Taken From Records |
| COMMUNICATIONS CABLE | COM(B2) | CR Cable Riser | PE Polyethylene Pipe |
| COMPRESSED AIR | AIR(A) | d Depth | UTS Unable To Survey |
| DUCTING | DUCT | PR Pipe Riser | UR Unable To Rod |
| EARTH CABLE | E | OF Offset Fill | UT Unable To Trace |
| ELECTRIC CABLE | E(B2) | T Tank | NVP No Visible Pipes |
| END OF TRACE | EOT | VR Vapour Recovery Point | |
| FOUL DRAINAGE | FW(B2) | UTL Unable To Lift | |
| FUEL PIPE | F(A) | | |
| GAS PIPE | G(B2) | | |
| GAUGE LINE | GL(A) | | |
| HEATING | H(A) | | |
| OFFSET FILL PIPE | O(A) | | |
| PUMPING MAIN | (A) | | |
| RADAR AREA ANOMALY (REBAR DETECTED) | | | |
| RADAR UTILITY TRACE | R(B2) | | |
| SURFACE DRAINAGE | SW(B2) | | |
| SURVEY BOUNDARY | | | |
| TELECOM CABLE | TEL(B1) | | |
| TRAFFIC LIGHTS | TL(B2) | | |
| UNIDENTIFIED | U(B2) | | |
| VAPOUR RECOVERY | VR(A) | | |
| VENT PIPE | V(A) | | |
| WATER PIPE | W(A) | | |

### 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.

### NOTES

Where services are non-metallic or not proven on site, positions are taken from records, trench scars & 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 TFR (Taken From Records) have not been proven on site.

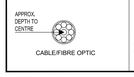
The CAD layering may contain further information.

### BSI PAS128 Quality Levels (displayed in linetype)

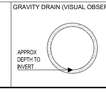
(A) = Verified by Inspection-trial pit, vacuum Excavation Inspection Chamber/Manhole
(B1) = Detected with GPR & EML - High confidence position and depth
(B2) = Detected with either GPR or EML - Medium confidence position and depth
(B3) = Detected with GPR or EML (no depth - poor signal)
(B4) = Assumed route - Not detected - interpreted route
(C) = Record data located to Street Furniture - not detected
(D) = Record data not located- not detected
NB: QL(A) is inferred at all MHs ICs etc. unless otherwise stated.

### TYPICAL FEATURE DEPTH ANNOTATION

ELECTRO-MAGNETIC DETECTION




GRAVITY DRAIN (VISUAL OBSERVATION)




GROUND PENETRATING RADAR




**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
Retaining Wall (Wall +H1.5m; R/W)

### FENCE STYLES AND DESCRIPTIONS

| | |
|---|---|
| Close Boarded | C/B |
| Corrugated Iron | C/I |
| Chestnut Paling | C/P |
| Chainlink | C/L |
| Handrail | H/R |
| Intersecion | MN |
| Iron Railings | I/R |
| Lattice | L/T |
| Miscellaneous | Misc |
| Palisade | PAL |
| Post & Chain | P/C |
| Post & Rail | P/R |
| Post & Wire | P/W |
| Right Mesh | R/M |
| Wire mesh | R/M |
| Stile | |
| Gate | |
| Fence linestyle | |

### ROADS

Kerbs
Edge of Surfacing
Pedestrian Crossing (PC)
Track
Footpath

### STREET FURNITURE

| | |
|---|---|
| Bellisha Beacon | BB |
| 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 |
| Mooring Ring | MR |
| Mile 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 | SGN |
| Stop | 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 | CATV |
| Inspection Cover Traffic Signals | IC/TL |
| Gully | G |
| Kerb Outlet | KO |
| Vent Pipe | o VP |
| Down Pipe | o DP |
| Rain Water Pipe | o RWP |
| Soil Pipe | o SVP |
| Gas Pipe | o G-PIPE |
| Unable to lift cover | U/L |
| Stop Tap | o ST |
| Stop Valve | o SV |
| Lamphole | o LH |
| Hydrant | o HYD |
| Earth Rod | o ER |
| Gas Valve | o GV |
| Water Meter | o WM |
| Washout | o WO |
| Rodding Eye | o RE |

### GEOTECHNICAL INFORMATION

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

### GENERAL INFORMATION

| | |
|---|---|
| Petrol Pump | PP |
| Basement Light | BL |
| Floorbridge | FB |
| Dish Type Channel | D.CH |
| Slot Type Channel | S.CH |
| Grate Type Channel | G.CH |
| Tactile Paving | TAC |
| Crash Barrier | C/BR |
| Column | o COL |
| Stanchion | STAN |
| Air Vacuum | AVC |
| Offset (FS) | o OF |
| Air Valve | o AV |
| Trough | TR |
| Chimney | CHY |
| Telephone Call Box | TCB |

### OVERHEAD FEATURES

Electricity Pylon (E/PYLON)
Electricity (E)
Telephone (T)

### WATER FEATURES

Canal
Stream
Ditch
Weir
Culvert
Drip (Land Drain)
Spring

### RELIEF AND VEGETATION

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

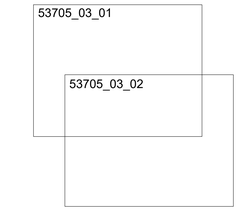
### LEVEL AND HEIGHT INFORMATION

| | |
|---|---|
| Standard Spot Height | + 123.45 |
| Prelimb Spot Height | + 123.456 |
| Bank Level | + 84.23.92 |
| Boiler Level | + 24.23.52 |
| Soffit Level | + 54.25.92 |
| Threshold Level | + 74.26.88 |
| Cover Level | + 0.26.45 |
| Invert Level | + 0.25.15 |
| Pipe Soffit Level | + 99.5.000 |
| Floor Level | + 114.8.00 |
| Finished Floor Level | + 77.16.00 |
| Top of Tank Level | + 777.00 |
| Springing Level | + 84.7.00 |
| Eave Level | + 83.7.00 |
| Ridge Level | + 86.8.00 |
| Roof Hip Level | + 84.8.50 |
| Flat Roof Level | + 78.7.00 |
| Top of Canopy Level | + 104'07.00 |
| Underside of Canopy Level | + 104'08.50 |
| Window Sill Level | + 84.8.00 |
| Window Head Level | + 84.8.00 |
| Springing Level | + 91.8.50 |
| Arch Level | + 84.7.00 |
| Cable Level | + 0+78.55 |
| Top of Wall Level | + 78.115.00 |
| Underside of Beam Level | + 88.8.55 |
| General Height | + 115.9.00 |

### SURVEY INFORMATION SIGNS

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

## Sheet Index




| Rev. | Date | Description |
|---|---|---|
| A | 02/10/19 | Extra detail added. |

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Accreditations

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2 The Matt House, The Deva Centre
Trinity Way, Manchester, M3 7BD

Project
Manchester College

Drawing Title
Utility Survey
Sheet 1 of 2

| | | | |
|---|---|---|---|
| Drawn By | LJC 20/09/19 | Survey Date | June 2019 |
| Checked by | RB various | Scale | 1:200@A0 |

| Drawing No | Revision |
|---|---|
| 53705_03_01 | A |