

1. Project & Site Details	Project / Site Name (including sub-catchment / stage / phase where appropriate)	O2 Centre Finchley
	Address & post code	O2 Centre Finchley, Car Park, NW3 6EY
	OS Grid ref. (Easting, Northing)	E 526037
		N 184775
	LPA reference (if applicable)	
	Brief description of proposed work	Reconfiguration of existing Car Park
	Total site Area	9500 m ²
	Total existing impervious area	9500 m ²
	Total proposed impervious area	7780 m ²
	Is the site in a surface water flood risk catchment (ref. local Surface Water Management Plan)?	Group3_010
	Existing drainage connection type and location	Connection to surface water drain, conveying to combined water network
	Designer Name	Henry McColl
Designer Position	Senior Engineer	

2. Proposed Discharge Arrangements	2a. Infiltration Feasibility		
	Superficial geology classification	No recorded superficial geology (BGS)	
	Bedrock geology classification	London Clay Formation	
	Site infiltration rate	m/s	
	Depth to groundwater level	1.26-1.89	m below ground level
	Is infiltration feasible?	No	
	2b. Drainage Hierarchy		
		<i>Feasible (Y/N)</i>	<i>Proposed (Y/N)</i>
	1 store rainwater for later use	N	N
	2 use infiltration techniques, such as porous surfaces in non-clay areas	N	N
	3 attenuate rainwater in ponds or open water features for gradual release	N	N
	4 attenuate rainwater by storing in tanks or sealed water features for gradual release	N	N
	5 discharge rainwater direct to a watercourse	N	N
	6 discharge rainwater to a surface water sewer/drain	Y	Y
	7 discharge rainwater to the combined sewer.	Y	Y
2c. Proposed Discharge Details			
Proposed discharge location	Existing surface water drain		
Has the owner/regulator of the discharge location been	Yes		



GREATERLONDONAUTHORITY



	Designer Company	Pell Frischmann
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	consulted?	
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3a. Discharge Rates & Required Storage				
	Greenfield (GF) runoff rate (l/s)	Existing discharge rate (l/s)	Required storage for GF rate (m ³)	Proposed discharge rate (l/s)
Q _{bar}	4.13	 	 	
1 in 1	3.52			
1 in 30	9.5			
1 in 100	13.18			
1 in 100 + CC	 	 		
Climate change allowance used		40%		
3b. Principal Method of Flow Control		None		
3c. Proposed SuDS Measures				
	Catchment area (m ²)	Plan area (m ²)	Storage vol. (m ³)	
Rainwater harvesting	0	 	0	
Infiltration systems	0	 	0	
Green roofs	0	0	0	
Blue roofs	0	0	0	
Filter strips	0	0	0	
Filter drains	0	0	0	
Bioretention / tree pits	0	346	83	
Pervious pavements	0	1133	102	
Swales	0	0	0	
Basins/ponds	0	0	0	
Attenuation tanks	0	 	0	
Total	0	1479	185	

4a. Discharge & Drainage Strategy	Page/section of drainage report
Infiltration feasibility (2a) – geotechnical factual and interpretive reports, including infiltration results	NA
Drainage hierarchy (2b)	Section 3.1
Proposed discharge details (2c) – utility plans, correspondence / approval from owner/regulator of discharge location	Appendix F
Discharge rates & storage (3a) – detailed hydrologic and hydraulic calculations	Section 2.2 and Section 3.2
Proposed SuDS measures & specifications (3b)	Section 3.2
4b. Other Supporting Details	Page/section of drainage report
Detailed Development Layout	Appendix D
Detailed drainage design drawings, including exceedance flow routes	Appendix F
Detailed landscaping plans	Appendix D
Maintenance strategy	Section 3.4
Demonstration of how the proposed SuDS measures improve:	
a) water quality of the runoff?	Section 3.3
b) biodiversity?	BNG Statement
c) amenity?	DAS

Asset location search



Property Searches

Pell Frischmann Consultants Ltd
5 manchester square Manchester Square
LONDON
W1U 3PD

Search address supplied Sainsburys Supermarkets Ltd
O2 Centre
255
Finchley Road
London
NW3 6LU

Your reference 104878

Our reference ALS/ALS Standard/2021_4418069

Search date 4 May 2021

Knowledge of features below the surface is essential for every development

The benefits of this knowledge not only include ensuring due diligence and avoiding risk, but also being able to ascertain the feasibility of any development.

Did you know that Thames Water Property Searches can also provide a variety of utility searches including a more comprehensive view of utility providers' assets (across up to 35-45 different providers), as well as more focused searches relating to specific major utility companies such as National Grid (gas and electric).

Contact us to find out more.



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0800 009 4540

Search address supplied: Sainsburys Supermarkets Ltd, O2 Centre, 255, Finchley Road, London, NW3 6LU

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk

Web: www.thameswater-propertysearches.co.uk

Waste Water Services

Please provide a copy extract from the public sewer map.

The following quartiles have been printed as they fall within Thames' sewerage area:

TQ2684NW
TQ2584NW
TQ2584NE

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

The following quartiles have been printed as they fall within Thames' water area:

TQ2684NW

TQ2584NW
TQ2584NE

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

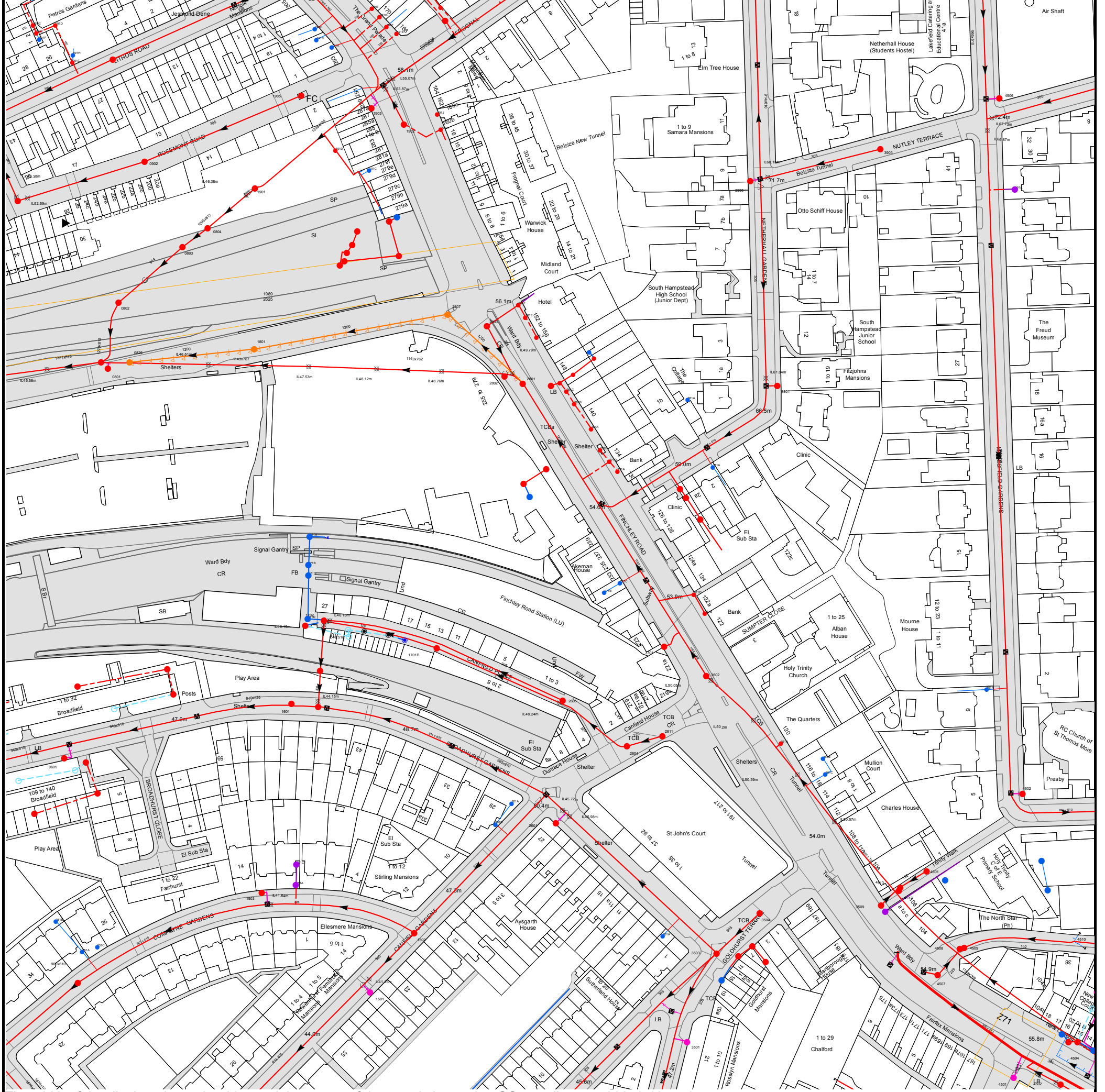
Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 526250,184750
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.

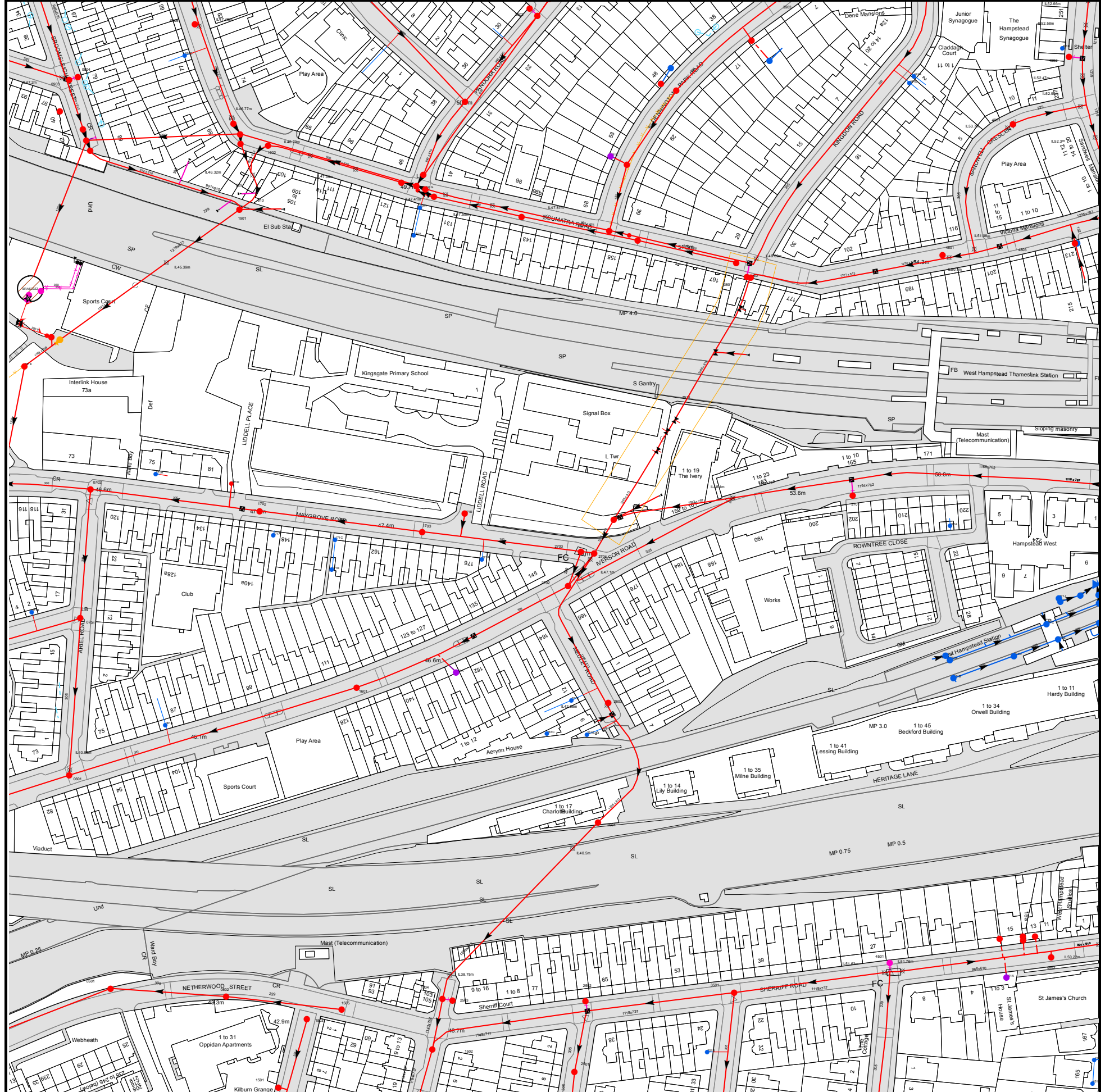
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NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3706	n/a	n/a
3705	n/a	n/a
27CI	n/a	n/a
3704	n/a	n/a
271A	n/a	n/a
27DA	n/a	n/a
371A	n/a	n/a
271D	n/a	n/a
271E	n/a	n/a
281A	n/a	n/a
281B	n/a	n/a
281C	n/a	n/a
3801	n/a	n/a
28CI	n/a	n/a
28CH	n/a	n/a
28CG	n/a	n/a
28CF	n/a	n/a
28CE	n/a	n/a
281D	n/a	n/a
491A	n/a	n/a
3906	n/a	n/a
3903	72.04	69.19
4906	n/a	n/a
18BB	n/a	n/a
191C	n/a	n/a
1903	n/a	n/a
191I	n/a	n/a
191G	n/a	n/a
191F	n/a	n/a
18AE	n/a	n/a
191E	n/a	n/a
18AF	n/a	n/a
18AD	n/a	n/a
1902	57.86	54.02
191J	n/a	n/a
1916	n/a	n/a
291A	n/a	n/a
2901	n/a	n/a
2807	55.9	48.57
2803	55.99	52.04
2802	n/a	n/a
281F	n/a	n/a
2801	55.4	49.44
27CJ	n/a	n/a
281E	n/a	n/a
091A	n/a	n/a
091C	n/a	n/a
091H	n/a	n/a
auto	n/a	n/a
0801	50.19	n/a
091B	n/a	n/a
0802	49.31	45.87
0826	49.4	46.13
0902	57.55	53.8
0803	49.12	46.09
0804	51.78	46.19
1801	49.02	46.5
1901	56	50.41
1905	58.3	55.92
191D	n/a	n/a
18AH	n/a	n/a
18AG	n/a	n/a
18AJ	n/a	n/a
18AI	n/a	n/a
091G	n/a	n/a
091E	n/a	n/a
091F	n/a	n/a
091D	n/a	n/a
191H	n/a	n/a
191B	n/a	n/a
191A	n/a	n/a
46AI	n/a	n/a
45DG	n/a	n/a
4510	61.48	n/a
3602	53.34	52.43
35CC	n/a	n/a
3504	52.33	48.88
361A	n/a	n/a
361B	n/a	n/a
361C	n/a	n/a
3509	54.32	52.46
451A	n/a	n/a
4512	55.99	50.83
4513	55.96	52.38
4601	58.43	57.79
45EF	n/a	n/a
4508	56.38	53.21
4509	56.52	55.45
461A	n/a	n/a
4602	n/a	n/a
3501	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3503	50.97	47.23
35BJ	n/a	n/a
35CB	n/a	n/a
35CD	n/a	n/a
4507	54.72	53.27
4501	54.71	n/a
4502	55.61	49.91
45DC	n/a	n/a
45DA	n/a	n/a
45CJ	n/a	n/a
45CI	n/a	n/a
45DB	n/a	n/a
4504	56.29	51.57
1502	46.46	42.31
1701B	50.28	47.36
261B	n/a	n/a
261A	n/a	n/a
2601	n/a	n/a
2605	52.05	50.07
271B	n/a	n/a
271C	n/a	n/a
2604	52.67	48.54
2611	53.12	49.01
351A	n/a	n/a
3701	n/a	n/a
381A	n/a	n/a
371D	n/a	n/a
371B	n/a	n/a
06AF	n/a	n/a
06AJ	n/a	n/a
051B	n/a	n/a
0601	n/a	n/a
06AG	n/a	n/a
06BB	n/a	n/a
06AH	n/a	n/a
051C	n/a	n/a
06BA	n/a	n/a
06BG	n/a	n/a
06BE	n/a	n/a
06BH	n/a	n/a
1503	n/a	n/a
1601	47.44	43.74
151A	n/a	n/a
161C	n/a	n/a
17BC	n/a	n/a
171D	n/a	n/a
171C	n/a	n/a
171B	n/a	n/a
171A	n/a	n/a
161B	47.44	n/a
161A	47.5	44.15
1702	48.6	n/a
17BE	n/a	n/a
17BD	n/a	n/a
1501	45.13	n/a
auto	n/a	n/a
051A	n/a	n/a

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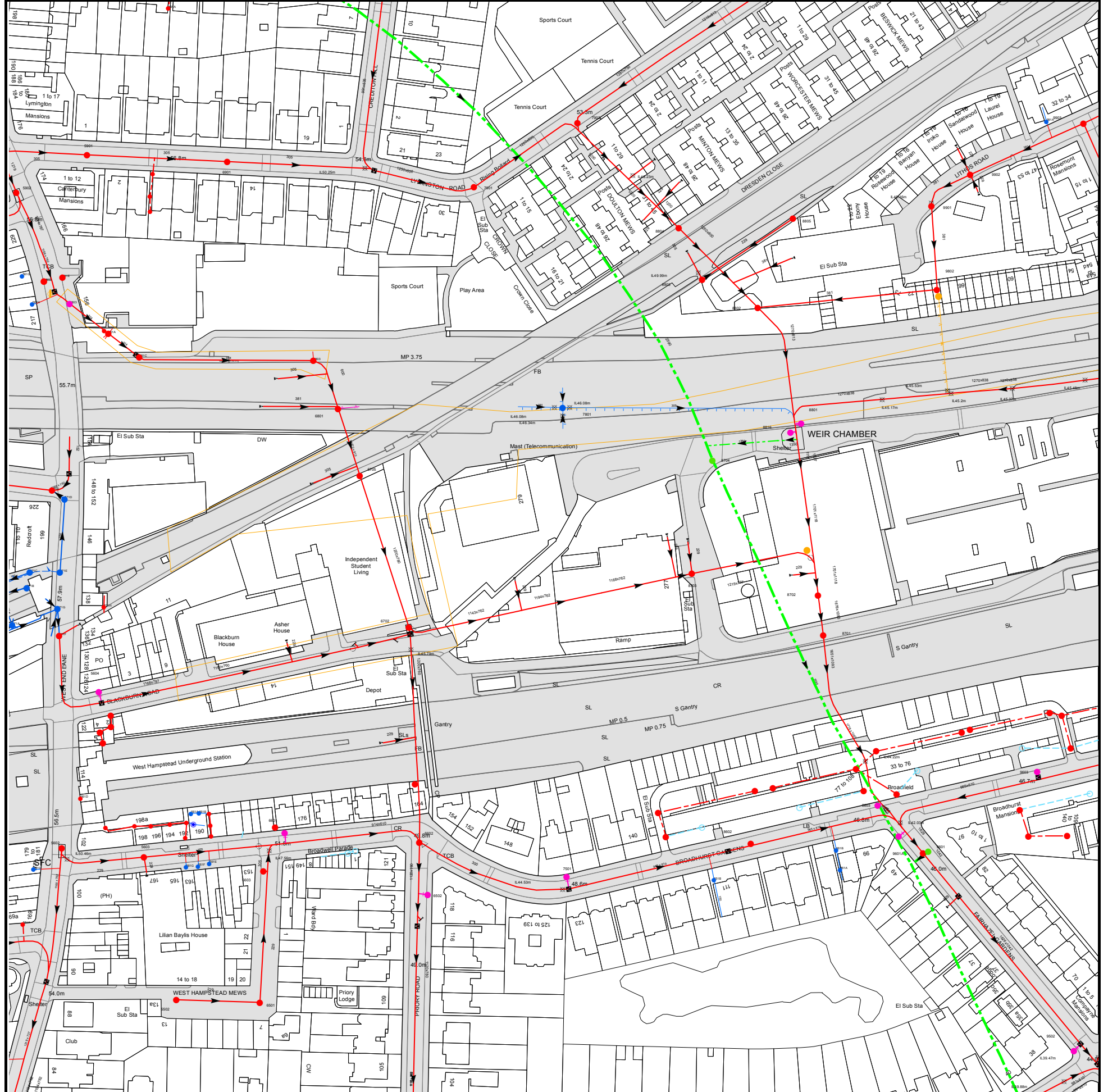
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Manhole Reference	Manhole Cover Level	Manhole Invert Level
4902	n/a	n/a
4901	57.68	n/a
491C	n/a	n/a
491A	n/a	n/a
491B	n/a	n/a
091A	49.39	46.66
191D	50	46.57
091B	49.54	39.9
191A	49.87	40.28
091C	49.67	46.77
09FC	n/a	n/a
191H	50.18	46.69
09CB	n/a	n/a
09FD	n/a	n/a
09FB	n/a	n/a
0903	n/a	n/a
0904	50.32	n/a
09FA	n/a	n/a
091D	n/a	n/a
09EJ	n/a	n/a
0905	51.11	n/a
09EI	n/a	n/a
09DJ	n/a	n/a
1902	49.87	46.59
191B	49.76	47.32
191E	49.79	47.46
291D	50.75	47.87
2902	n/a	n/a
291C	51.92	48.55
291A	51.92	43.88
291E	n/a	n/a
291B	51.27	48.58
29BF	n/a	n/a
39CD	n/a	n/a
391A	52.11	49.57
39BJ	n/a	n/a
39CA	n/a	n/a
3904	n/a	n/a
39CF	n/a	n/a
3903	54.46	51.65
471G	n/a	n/a
471C	n/a	n/a
471F	n/a	n/a
471H	n/a	n/a
471K	n/a	n/a
471J	n/a	n/a
471L	n/a	n/a
471I	n/a	n/a
471A	n/a	n/a
4801	54.75	n/a
48AD	n/a	n/a
4803	n/a	n/a
0601	44.64	40.85
061A	n/a	n/a
0701	45.8	42.09
071B	n/a	n/a
171B	n/a	n/a
171C	n/a	n/a
171A	n/a	n/a
1702	46.98	43.68
0702	46.62	42.76
171D	n/a	n/a
071A	n/a	n/a
081E	51.9	44.96
081A	51.89	44.69
081B	51.69	n/a
081C	51.69	n/a
081D	51.69	n/a
1901	49.34	45.97
2601	51.08	40.97
261B	n/a	n/a
261C	n/a	n/a
2603	48.77	n/a
261E	n/a	n/a
1601	45.83	43.23
261A	n/a	n/a
2702	48.31	45.26
271A	n/a	n/a
2704	48.99	45.02
2703	48.72	45.94
1703	47.44	44.81
2705	50.27	45.44
271B	n/a	n/a
3701	n/a	n/a
3802	n/a	48.02
3801	n/a	n/a
381A	51.65	48.84
281C	50.9	48.34
281D	n/a	n/a
181A	n/a	n/a

Manhole Reference	Manhole Cover Level	Manhole Invert Level
281A	50.77	48.11
281B	50.08	47.76
191I	n/a	n/a
191C	49.65	47.49
191G	49.68	47.38
191F	49.7	43.21
4507	n/a	n/a
4504	n/a	n/a
4505	n/a	n/a
4506	n/a	n/a
461B	n/a	n/a
461A	n/a	n/a
471D	n/a	n/a
471B	n/a	n/a
471E	n/a	n/a
1501	n/a	n/a
2501	n/a	n/a
1502	n/a	n/a
1503	n/a	n/a
1505	n/a	n/a
2503	n/a	n/a
1504	44.05	38.58
0502	n/a	n/a
0501	n/a	n/a
2502	n/a	n/a
351B	n/a	n/a
3501	51.18	47.27
4501	55.34	n/a
451A	n/a	n/a
4502	n/a	n/a
451B	n/a	n/a
451C	n/a	n/a

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 525750,184750

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Manhole Reference	Manhole Cover Level	Manhole Invert Level
8802	53.15	46.06
8816	49.1	44.2
8805	52.9	50.57
8801	n/a	n/a
9901	53.22	49.09
9802	53.42	48.16
9902	54.18	49.87
991A	n/a	n/a
9903	55.25	51.37
5902	56.84	52.16
5901	57.21	51.77
5907	n/a	n/a
5906	n/a	n/a
5908	n/a	n/a
6901	56.15	50.97
7901	53.34	49.07
7902	53.14	48.56
8804	n/a	n/a
96BC	n/a	n/a
9502	44.25	39.42
8602	47.38	43.41
86BC	n/a	n/a
86BB	n/a	n/a
86BE	n/a	n/a
8702	49.13	44.68
8701	49.78	44.64
861B	n/a	n/a
861A	n/a	n/a
86AJ	n/a	n/a
86BF	n/a	n/a
86AI	n/a	n/a
8603	46.58	44.58
96CF	n/a	n/a
961A	n/a	n/a
96CG	n/a	n/a
9601A	46.15	41.36
9601	46.6	29.86
96CE	n/a	n/a
96CD	n/a	n/a
96BD	n/a	n/a
96BI	n/a	n/a
96BG	n/a	n/a
9603	46.67	n/a
96CC	n/a	n/a
96CB	n/a	n/a
96BF	n/a	n/a
96CA	n/a	n/a
6501	50.84	49.56
561F	n/a	n/a
561B	n/a	n/a
56CB	n/a	n/a
561E	n/a	n/a
56CC	n/a	n/a
56CD	n/a	n/a
6603	n/a	n/a
66DJ	n/a	n/a
6601	n/a	n/a
6803	48.34	46.65
6801	48.05	46.42
66BE	n/a	n/a
66BF	n/a	n/a
6705	n/a	46.25
6702	50.83	46.18
66CI	n/a	n/a
6602	49.87	45.06
6502	n/a	n/a
7801	48.05	n/a
7501	n/a	n/a
76AB	n/a	n/a
76AC	n/a	n/a
8703	48.77	45.2
86BD	n/a	n/a
8803	52.01	49.2
8704	48.56	30.78
851B	n/a	n/a
591A	n/a	n/a
571F	n/a	n/a
571A	n/a	n/a
571G	n/a	n/a
571H	n/a	n/a
571B	n/a	n/a
571C	n/a	n/a
571E	n/a	n/a
571D	n/a	n/a
5702	56.02	51.43
581C	50.23	47.53
581A	55.17	47.62
581H	n/a	n/a
5803	55.64	51.24
581F	50.23	47.53



















Manhole Reference	Manhole Cover Level	Manhole Invert Level
581D	50.23	47.53
581E	50.23	47.53
581G	n/a	n/a
551A	n/a	n/a
561C	n/a	n/a
561G	n/a	n/a
5603	53.54	49.43
5602	55.89	49.55
56DD	n/a	n/a
56DC	n/a	n/a
56DA	n/a	n/a
56DB	n/a	n/a
56CJ	n/a	n/a
56CI	n/a	n/a
561A	n/a	n/a
561D	n/a	n/a
56BE	n/a	n/a
56BF	n/a	n/a
56BG	n/a	n/a
56BH	n/a	n/a
5604	n/a	n/a
5502	52.33	50.48

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.



ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

-  **Foul:** A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
-  **Surface Water:** A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
-  **Combined:** A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
-  Trunk Surface Water
-  Trunk Foul
-  Storm Relief
-  Trunk Combined
-  Vent Pipe
-  Bio-solids (Sludge)
-  Proposed Thames Surface Water Sewer
-  Proposed Thames Water Foul Sewer
-  Gallery
-  Foul Rising Main
-  Surface Water Rising Main
-  Combined Rising Main
-  Sludge Rising Main
-  Proposed Thames Water Rising Main
-  Vacuum

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plans are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
- 5) 'na' or 'D' on a manhole level indicates that data is unavailable.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

-  Air Valve
-  Dam Chase
-  Fitting
-  Meter
-  Vent Column




Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

-  Control Valve
-  Drop Pipe
-  Ancillary
-  Weir

End Items





End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol, Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

-  Outfall
-  Undefined End
-  Inlet

- 6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Searches on 0800 009 4540.






Other Symbols

Symbols used on maps which do not fall under other general categories








-  Public/Private Pumping Station
-  Change of characteristic indicator (C.O.C.I.)
-  Invert Level
-  Summit

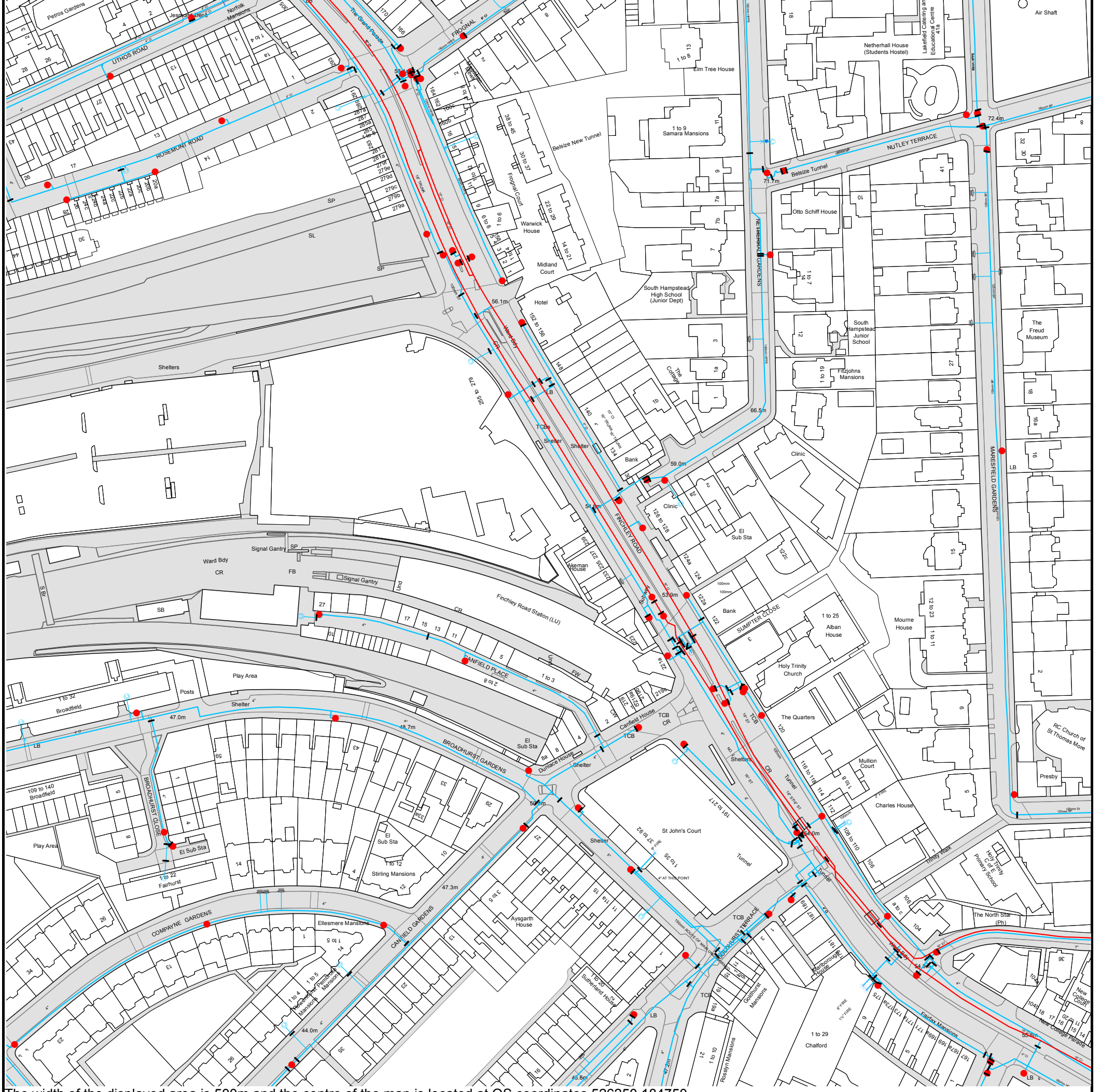
Areas

Lines denoting areas of underground surveys, etc.

-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

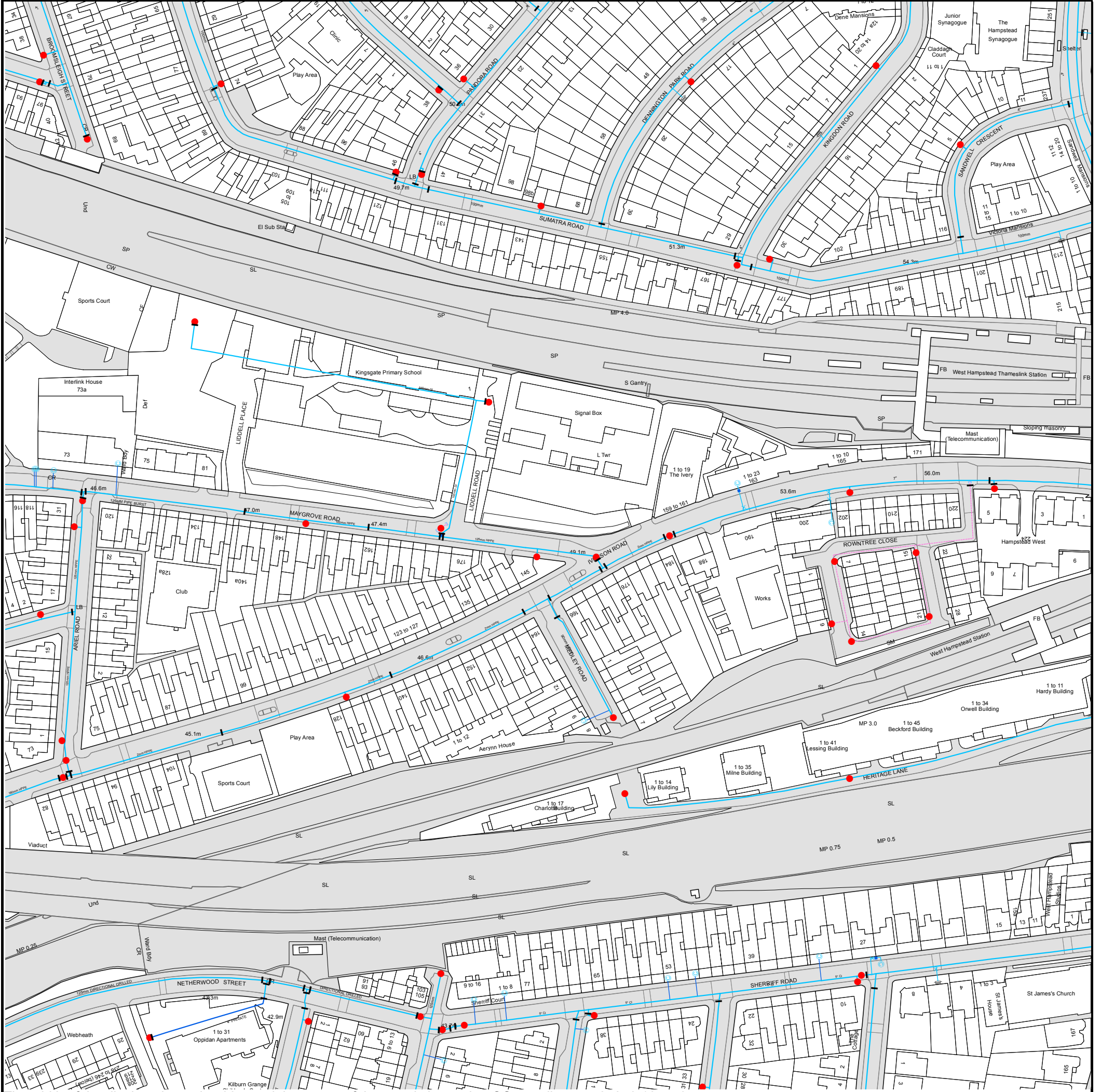
Other Sewer Types (Not Operated or Maintained by Thames Water)

-  Foul Sewer
-  Surface Water Sewer
-  Combined Sewer
-  Gully
-  Culverted Watercourse
-  Proposed
-  Abandoned Sewer



The width of the displayed area is 500m and the centre of the map is located at OS coordinates 526250,184750
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.

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 525250,184750

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.

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The width of the displayed area is 500m and the centre of the map is located at OS coordinates 525750,184750








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.

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)


- 
Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 
Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
- 
Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 
Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 
Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
- 
Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
- 
Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

-  General Purpose Valve
-  Air Valve
-  Pressure Control Valve
-  Customer Valve

Hydrants








-  Single Hydrant

Meters










-  Meter

End Items

Symbol indicating what happens at the end of a water main.

-  Blank Flange
-  Capped End
-  Emptying Pit
-  Undefined End
-  Manifold
-  Customer Supply
-  Fire Supply



Operational Sites

-  Booster Station
-  Other
-  Other (Proposed)
-  Pumping Station
-  Service Reservoir
-  Shaft Inspection
-  Treatment Works
-  Unknown
-  Water Tower

Other Symbols

-  Data Logger

Other Water Pipes (Not Operated or Maintained by Thames Water)

-  **Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
-  **Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL's terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

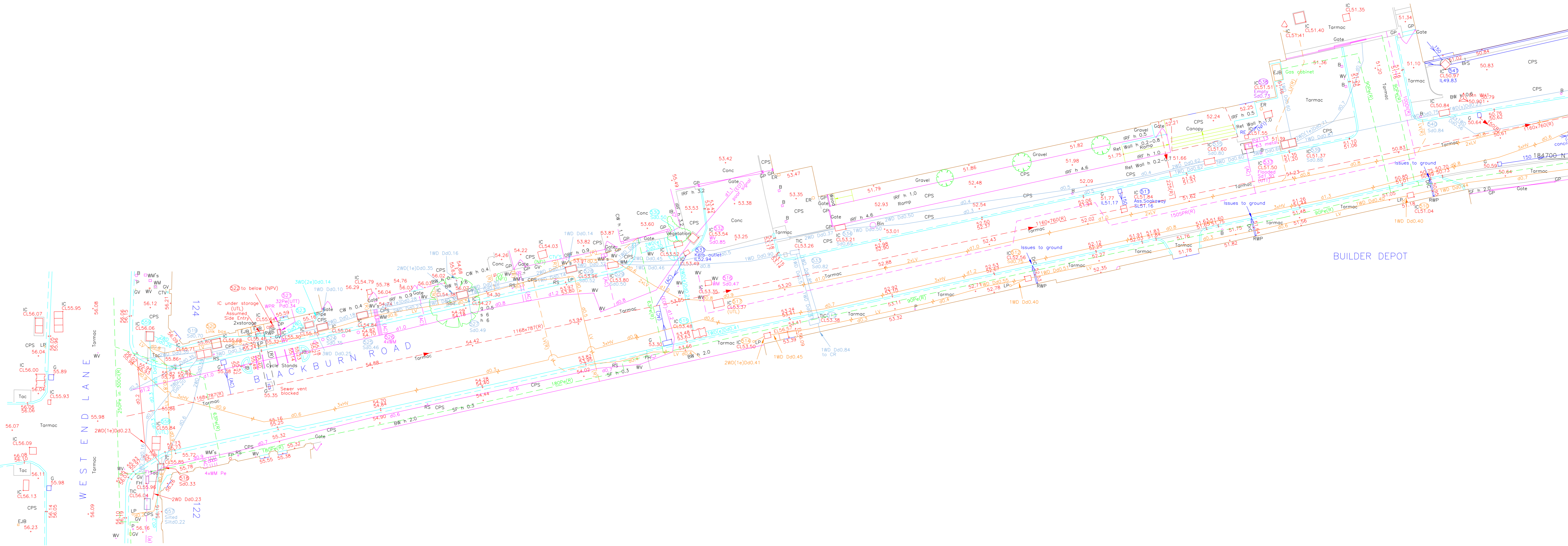
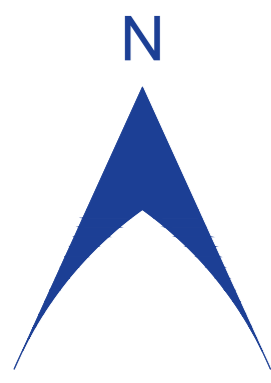
If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to her at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking	Cheque
<p>Call 0800 009 4540 quoting your invoice number starting CBA or ADS / OSS</p>	<p>Account number 90478703 Sort code 60-00-01 A remittance advice must be sent to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW. or email ps.billing@thameswater.co.uk</p>	<p>By calling your bank and quoting: Account number 90478703 Sort code 60-00-01 and your invoice number</p>	<p>Made payable to 'Thames Water Utilities Ltd' Write your Thames Water account number on the back. Send to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW or by DX to 151280 Slough 13</p>

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.



STANDARD ABBREVIATIONS	
AC	As-built
AD	As-drawn
AS	As-surveyed
AW	As-works
B	Boundary
BR	Boundary Reference
BS	Bench Mark
CC	Construction Control
CD	Construction Drawing
CH	Channel
CI	Construction Information
CL	Construction Line
CM	Construction Method
CP	Construction Point
CS	Construction Surface
CT	Construction Type
CU	Construction Unit
CV	Construction Volume
DB	Drawing Board
DC	Drawing Control
DE	Drawing Error
DF	Drawing File
DG	Drawing Grid
DI	Drawing Information
DJ	Drawing Job
DK	Drawing Kit
DL	Drawing List
DM	Drawing Method
DN	Drawing Note
DO	Drawing Object
DP	Drawing Point
DQ	Drawing Query
DR	Drawing Record
DS	Drawing Sheet
DT	Drawing Title
DU	Drawing Unit
DV	Drawing View
DW	Drawing Work
DX	Drawing X-axis
DY	Drawing Y-axis
DZ	Drawing Z-axis

SERVICE ABBREVIATIONS	
AC	As-built
AD	As-drawn
AS	As-surveyed
AW	As-works
B	Boundary
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RAIL ABBREVIATIONS	
AC	As-built
AD	As-drawn
AS	As-surveyed
AW	As-works
B	Boundary
BR	Boundary Reference
BS	Bench Mark
CC	Construction Control
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DS	Drawing Sheet
DT	Drawing Title
DU	Drawing Unit
DV	Drawing View
DW	Drawing Work
DX	Drawing X-axis
DY	Drawing Y-axis
DZ	Drawing Z-axis

SERVICE LEGEND

FOUL DRAINAGE	[Symbol]
SURFACE WATER DRAINAGE	[Symbol]
WATER	[Symbol]
GAS	[Symbol]
ELECTRICITY	[Symbol]
TELEPHONE	[Symbol]
CABLE TV	[Symbol]
TRAFFIC CONTROL	[Symbol]
UNKNOWN SERVICE	[Symbol]
UNDERGROUND CHAMBER	[Symbol]

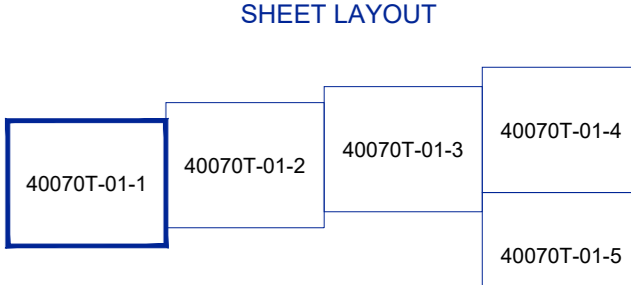
Unless otherwise stated, drainage pipes are 100mm diameter.

The identification of service covers has been made by a surface inspection only - critical identifications should be verified by the lifting of covers or a full utilities survey.

Due to the inherent instability of paper materials, drawings plotted on paper may be stretched and distorted - dimensions scaled from paper plots should therefore be treated with caution.

This drawing has been prepared to the position of the original commissioning agent. Plowman Craven Limited will accept no responsibility for details that are inadvertently found to be the consequence of subsequent work at the site unless obtained from the client or surveyor or that have been altered since the survey.

See www.plowmancraven.co.uk for full terms and conditions of contract.



Issue	Details	By	Date
A	Original Issue	PCJ	24/09/18
B	UGS Added: Type updated	PCJ	12/09/18
C	Final Issue	PCJ	27/11/18
D	Inaccessible areas marked up	PCJ	20/02/19
E	Metropolitan Line SB added	PCJ	12/04/19

This survey is commensurate with band E accuracy, as outlined in the RICS survey detail accuracy banding table.

All levels are in metres and are above Ordnance Survey Newlyn Datum derived by multiple network RTK GPS observations.

The survey grid shown on this drawing is positioned on Ordnance Survey (OS) National Grid, obtained by multiple network RTK GPS observations.

Unless otherwise stated, levels have been taken to finished floor surface.

All quoted dimensions are in metres.

Drawing units are metres.

Parked vehicles that could not be moved at time of survey, particularly in Finchley Road and Alan Day Villages, may be concealed detail.

Jobline line SB (all added from scanned data, with lower accuracy).

CLIENT
Landsec
100 Victoria Street
London
SW1E 5JF

PROJECT TITLE
O2 Centre
255 Finchley Road NW3 6LU

Topographic Survey and UGS

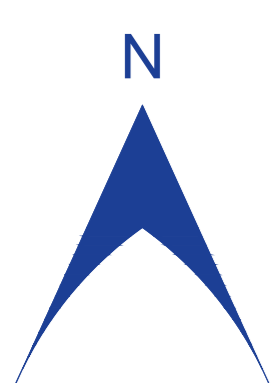
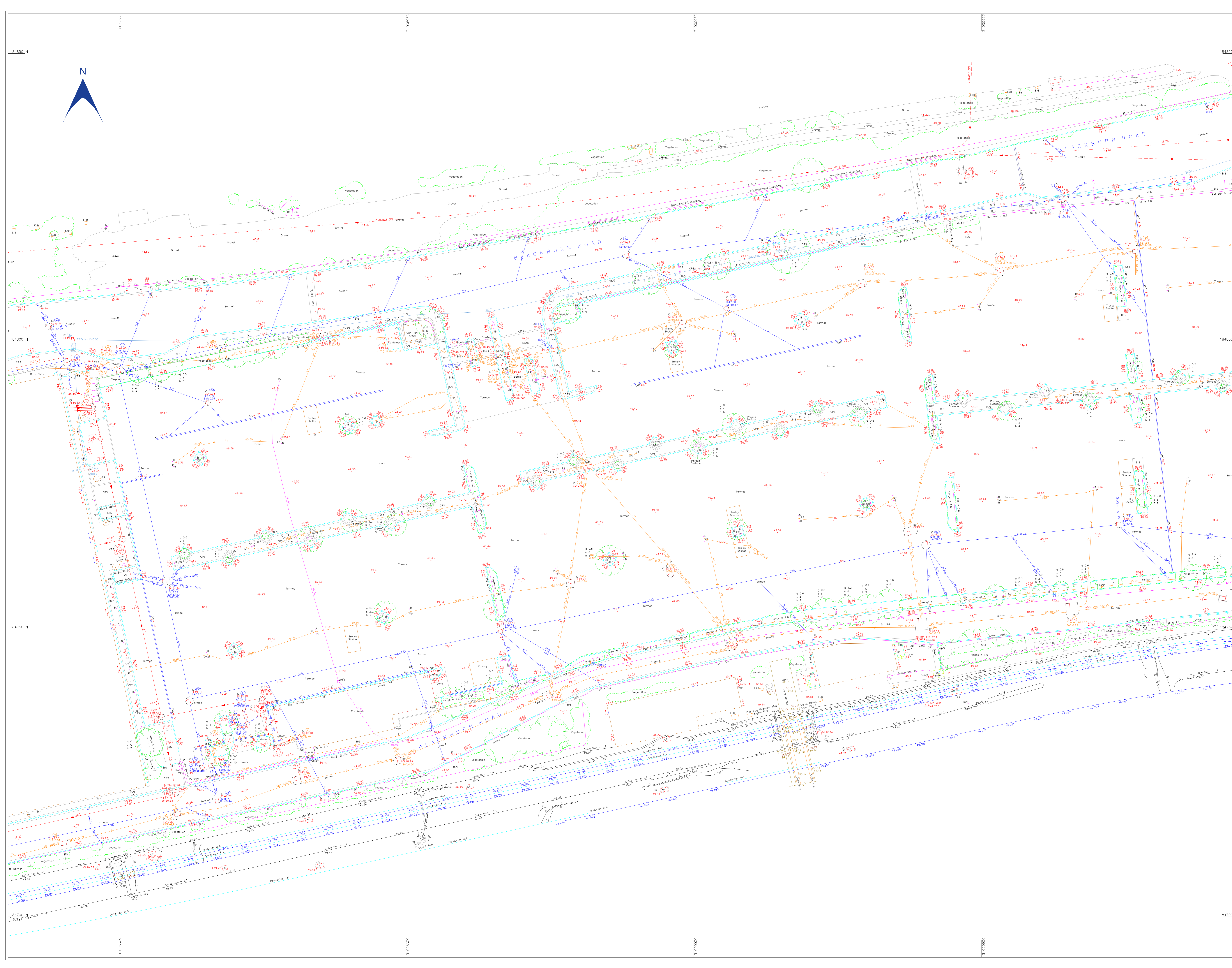
PRESENTATION SCALE 1:200 @ A0

DATE OF ORIGINAL SURVEY August 2018

PC PROJECT No.	40070	CHECKED	DGR
DRAWING No.		ISSUE	

40070T-01-1 E

Plowman Craven	
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STANDARD ABBREVIATIONS

AC	Asphalt	LB	Level Book
AD	Asphalt Driveway	LP	Level Point
B	Boundary	MA	Manhole
BS	Block Stone	MB	Manhole Box
BU	Bulkhead	MC	Manhole Cover
CA	Calcium	ME	Manhole Entry
CB	Cast Bitum	MF	Manhole Frame
CC	Cast Concrete	MG	Manhole Grate
CD	Cast Iron	MS	Manhole Sump
CE	Cast Lead	MT	Manhole Tank
CF	Cast Steel	NU	Not Under
CG	Cast Glass	OV	Over
CH	Cast Iron	OW	Overhead
CI	Cast Iron	OW	Overhead
CL	Cast Lead	OW	Overhead
CM	Cast Metal	OW	Overhead
CO	Cast Oil	OW	Overhead
CP	Cast Pipe	OW	Overhead
CS	Cast Steel	OW	Overhead
CT	Cast Tin	OW	Overhead
CU	Cast Un	OW	Overhead
CV	Cast Valve	OW	Overhead
CA	Calcium	OW	Overhead
CB	Cast Bitum	OW	Overhead
CC	Cast Concrete	OW	Overhead
CD	Cast Iron	OW	Overhead
CE	Cast Lead	OW	Overhead
CF	Cast Steel	OW	Overhead
CG	Cast Glass	OW	Overhead
CH	Cast Iron	OW	Overhead
CI	Cast Iron	OW	Overhead
CL	Cast Lead	OW	Overhead
CM	Cast Metal	OW	Overhead
CO	Cast Oil	OW	Overhead
CP	Cast Pipe	OW	Overhead
CS	Cast Steel	OW	Overhead
CT	Cast Tin	OW	Overhead
CU	Cast Un	OW	Overhead
CV	Cast Valve	OW	Overhead

SERVICE ABBREVIATIONS

AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway

RAIL ABBREVIATIONS

AC	Asphalt	AC	Asphalt
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway
AD	Asphalt Driveway	AD	Asphalt Driveway

SERVICE LEGEND

FOUL DRAINAGE	Blue line with arrow
SURFACE WATER DRAINAGE	Red line with arrow
WATER	Green line with arrow
GAS	Yellow line with arrow
ELECTRICITY	Orange line with arrow
TELEPHONE	Purple line with arrow
CABLE TV	Light blue line with arrow
TRAFFIC CONTROL	Black line with arrow
UNKNOWN SERVICE	Grey line with arrow

UNDERGROUND CHAMBER
 Identification of service covers has been made by a surface inspection only - critical identifications should be verified by the lifting of covers or a full utility survey.
 Due to the inherent instability of paper materials, drawings plotted on paper may be stretched and distorted - dimensions scaled from paper plots should therefore be treated with caution.

SHEET LAYOUT

40070T-01-1	40070T-01-2	40070T-01-3	40070T-01-4
			40070T-01-5

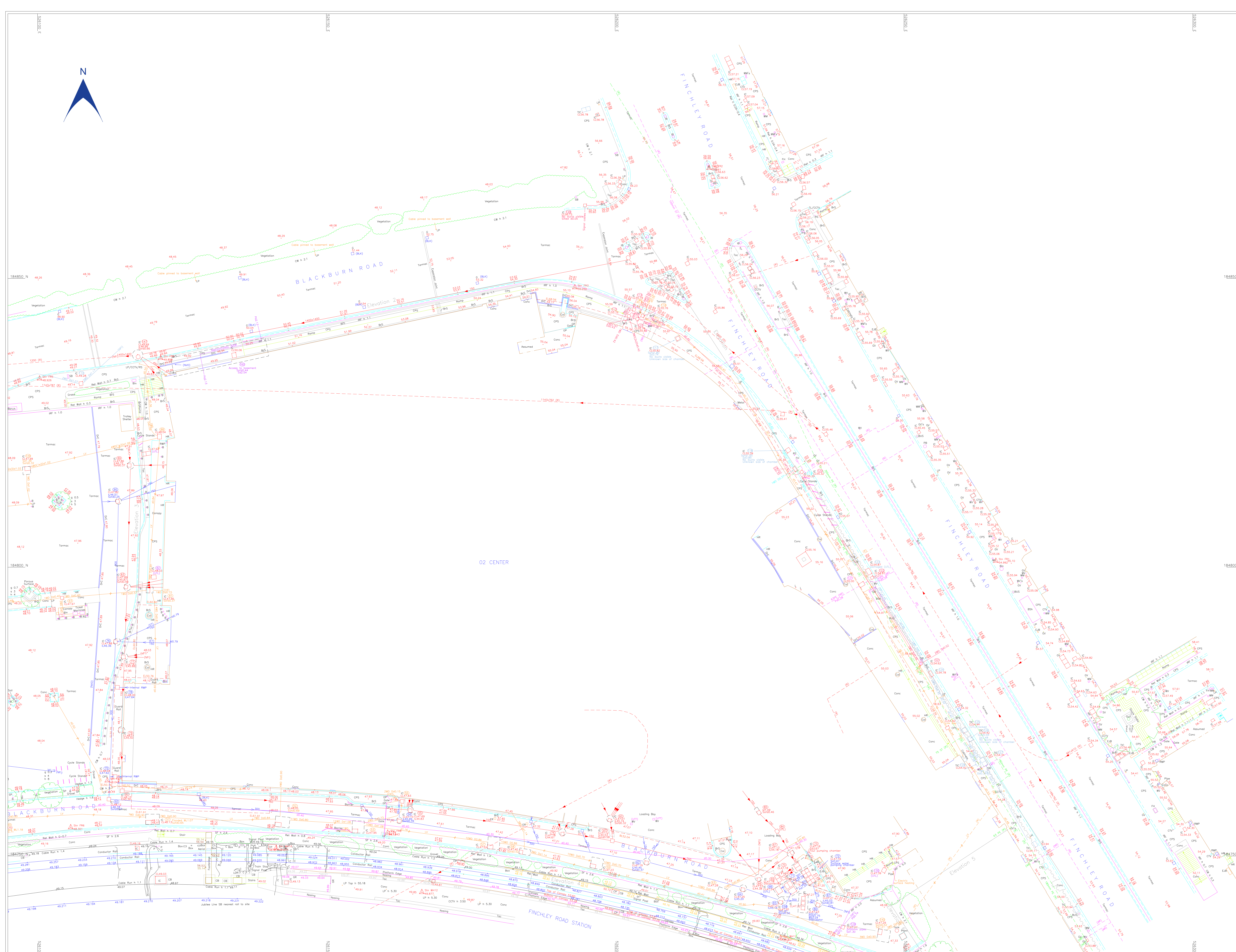
ISSUES & REVISIONS

Issue	Details	By	Date
A	Original issue	PCL	24/08/18
B	UGS Added: Type Updated	PCL	12/09/18
C	Final issue	PCL	27/11/18
D	Inaccessible areas marked up	PCL	20/02/19
E	Manpower Line SB added	PCL	12/04/19

This survey is commensurate with band E accuracy, as outlined in the RECS survey detail accuracy banding table.
 All levels are in metres and are above Ordnance Survey Newlyn Datum derived by multiple epoch and static RTK GPS observations.
 The survey grid shown on this drawing is positioned on Ordnance Survey (OS) National Grid, obtained by multiple network RTK GPS observations. Unless otherwise stated, levels have been taken to finished floor surface.
 All quoted dimensions are in metres.
 Drawing units are metres.
 Parked vehicles that could not be moved at time of survey, particularly in Franchise Road and other areas, may be shown in grey.
 Jobline line SB added from scanned data, with lower accuracy.
CLIENT
Landsec
 100 Victoria Street
 London
 SW1E 5JF

PROJECT TITLE
O2 Centre
 255 Finchley Road NW3 6LU
Topographic Survey and UGS
PRESENTATION SCALE
1:200 @ A0
DATE OF ORIGINAL SURVEY
 August 2018
PC PROJECT No. 40070 **CHECKED** DGR
DRAWING No. **ISSUE**
40070T-01-3 **E**

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STANDARD ABBREVIATIONS

AG	Art Galleries	LB	Line Box
AL	Asphalt	LP	Level Point
B	Battery	M	Main
BB	Battery Box	MB	Main Box
BK	Bulk	MW	Main Well
BS	Bulk Box	NB	Narrow Bed
BSB	Bulk Box with Base	NB	Narrow Bed
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame
BSB	Bulk Box with Base	OP	Open Standard Frame

SERVICE ABBREVIATIONS

UFG	Underground Foul Drainage	W	Water
SWD	Surface Water Drainage	G	Gas
W	Water	E	Electricity
G	Gas	CTV	Cable TV
E	Electricity	T	Telephone
CTV	Cable TV	U	Unknown

RAIL ABBREVIATIONS

AC	Anti-Climber	IC	Interlocking Closure
AWB	Automated Warning Bell	J	Joint
B	Bank	LP	Level Point
C	Can	LPB	Level Point Box
C&T	Clearance & Track	L	Line
C&T	Clearance & Track	L	Line
C&T	Clearance & Track	L	Line

SERVICE LEGEND

- FOUL DRAINAGE** (Red line)
- SURFACE WATER DRAINAGE** (Blue line)
- WATER** (Green line)
- GAS** (Yellow line)
- ELECTRICITY** (Cyan line)
- CABLE TV** (Magenta line)
- TELEPHONE** (Blue line with red outline)
- TRAFFIC CONTROL** (Red line with white dashes)
- UNKNOWN SERVICE** (Purple line)

UNDERGROUND CHAMBER

Underground chamber symbols have been used to indicate the location of underground services. The results are not reliable and the locations should be confirmed on site to confirm service location, position and particularly depth. Although of maximum effort has been made in ascertaining available record drawings the completeness of the underground services information cannot be guaranteed.

Unless otherwise stated, drainage pipes are 100mm diameter.

The identification of service covers has been made by a surface inspection only - critical identifications should be verified by the lifting of covers or a full utility survey.

Due to the inherent instability of paper materials, drawings printed on paper may be stretched and distorted - dimensions scaled from paper plots should therefore be treated with caution.

SHEET LAYOUT

40070T-01-1	40070T-01-2	40070T-01-3	40070T-01-4
			40070T-01-5

ISSUES & REVISIONS

Issue	Details	By	Date
A	Original Issue	PCJ	24/09/18
B	UGS Added: Top Updated	PCJ	12/09/18
C	Final Issue	PCJ	27/11/18
D	Inaccessible areas marked up	PCJ	20/02/19
E	Manorston Line SB added	PCJ	12/04/19

This survey is commensurate with band E accuracy, as outlined in the RICS survey detail accuracy banding table.

All levels are in metres and are above Ordnance Survey Newlyn Datum derived by multiple network RTK GPS observations.

The survey grid shown on this drawing is positioned on Ordnance Survey (OS) National Grid, obtained by multiple network RTK GPS observations. Unless otherwise stated, levels have been taken to finished floor surface. All quoted dimensions are in metres.

Drawing units are metres. Parked vehicles that could not be moved at time of survey, particularly in Finchley Road and Area Day Villages, may be concealing detail. A white line SB has been added from scanned data, with lower accuracy.

CLIENT

Landsec
100 Victoria Street
London
SW1E 5JF

PROJECT TITLE

O2 Centre
255 Finchley Road NW3 6LU

Topographic Survey and UGS

PRESENTATION SCALE 1:200 @ A0

DATE OF ORIGINAL SURVEY August 2018

PCJ PROJECT No. 40070 **CHECKED** DGR

DRAWING No. 40070T-01-4 **ISSUE** E

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