

		Doc Reference: LSR_01
Subject	Louisa Street Openshaw	Date: 13.04.2023
Client	Westchurch Homes	Page 1 of 2

Title:

Search for “unnamed” Culverted Watercourse off Louisa Street, Openshaw, Manchester

Background:

Invek Surveys Ltd were asked by our client, Westchurch Homes, to investigate the existence of an “unnamed” Culverted Watercourse (and survey if found) located off Louisa Street, Openshaw.

Experience:

Invek Surveys were established in May 1993 and have been involved in the field of drainage investigations and surveys for the past 30 years.

Methodology:

We attended site on Wednesday 8th February 2023 and initially undertook a site walkover where we utilised various plans issued by our client.

1. Manchester City Council LLFA screen capture showing a purple dotted line crossing the park off Louisa Street but only showing the start of the culvert within the park itself. This line showed NO access chambers, inlets or outlets from which access may have been sought.
2. United Utilities sewer plan that showed NO indication of this culverted watercourse.

Our team of four operatives split up, and with the aid of metal detectors, thoroughly searched the open grassed areas of the park – no covers were found. Please note that there were covers on the public combined sewer system there but none on any culverted watercourse etc.

There were areas of overgrown bushes and trees to the Northern boundary of the site that we were not able to access – photos of these areas were in the final report to our client.

With absolutely NO covers or other indicators that a culverted watercourse existed, there was no more that could be done in that park area.

As a side note, it was proved that the highway gullies in Louisa Street discharged direct to the main combined sewer; this was perhaps not unusual in an area of this age, but it may be concluded that if a culverted watercourse was located here, then it may have expected to receive the rainwater runoff from the highway etc...

Once we felt the park area had been exhausted in terms of searching for any clues to the existence of the watercourse, we then relocated to the area West of the park (the suspected downstream) and started to look in the area of Victoria Street.

		Doc Reference: LSR_01
Subject	Louisa Street Openshaw	Date: 13.04.2023
Client	Westchurch Homes	Page 2 of 2

Here we lifted many of the covers in an attempt to find evidence of this culverted watercourse but found only Combined Water sewers.

To help show the total search area covered, we showed it as a hatched Cyan layer to the final CAD and PDF report.

With the total lack of any covers on this watercourse it proved impossible to confirm if it even existed!

Back at the office we looked at historic plans of the area hoping that there may be clues give before a lot of the newer development here but again nothing was found!

Conclusion:

In conclusion it is our opinion that without extensive trial holes and invasive excavations, it would not be possible to locate this culverted watercourse, if indeed it still even exists today.

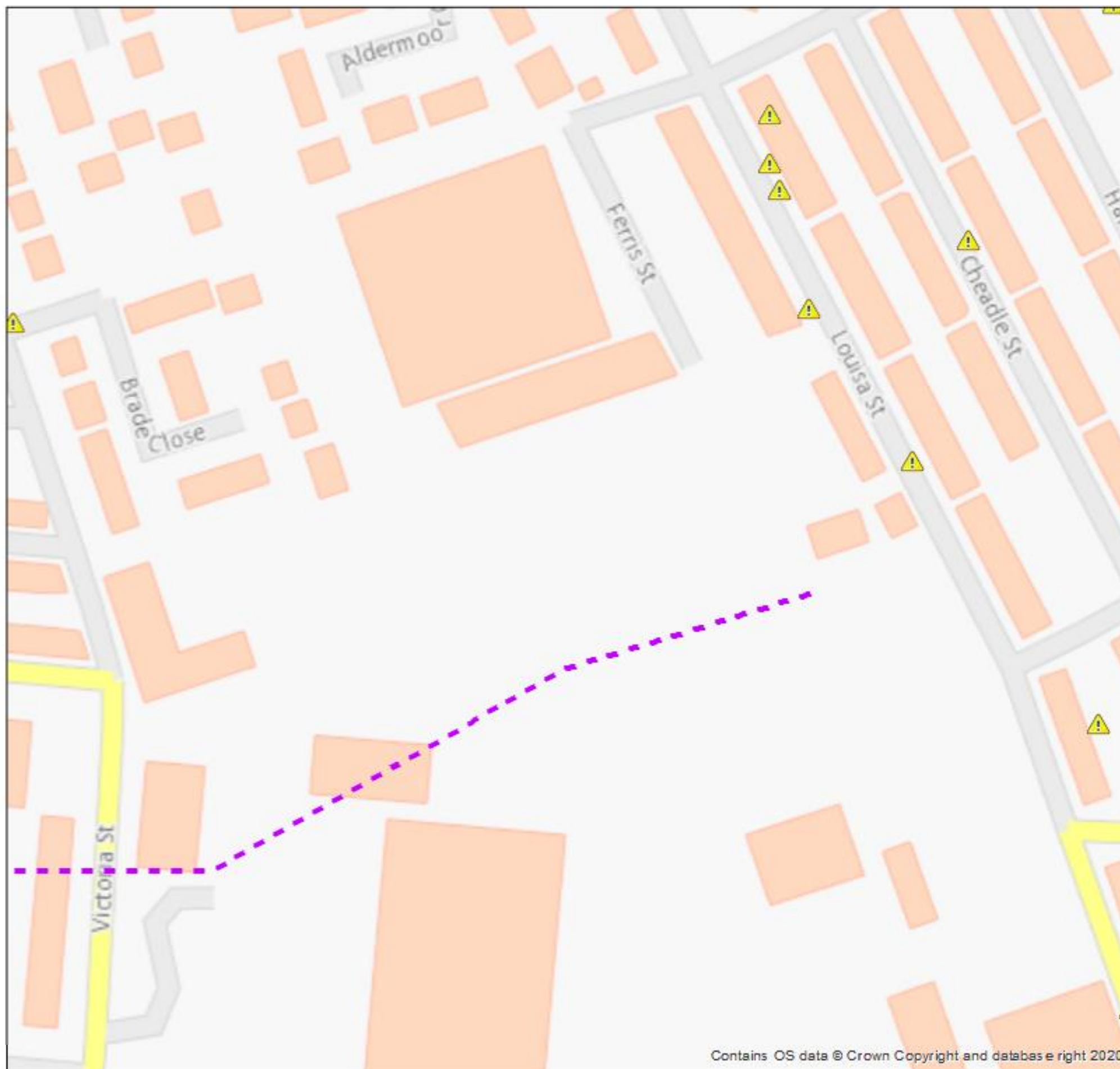
Attachments:

- Existing LLFA Off-Site Culvert
- Existing UU Records markup
- Louisa Street Openshaw Drainage Layout









**MANCHESTER
CITY COUNCIL**

LLFA DATA SCREEN

Address/Site Ref:

Louisa Street

Our Ref: **MCC030/08/2022**

Author: Manchester City Council LLFA

Date: 30/08/2022

Scale: 1:1,593

The position of features shown on this plan is approximate only and is given in accordance with the best information currently available. Manchester City Council will not accept liability for any loss or damage caused by the actual position being different from those shown.

0 10 20 40
Meters



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The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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Revo	Cover	Ft	Invert	Size	Size	Shape	Matt	Length	Grad
3890	74.6	71.92	150				VC	13.57104	10
3891	71.55	69.98	300				VC	2.978103	1 n 2
3892	74.29	72.71	225				VC	15.84679	1 n 153
6607			225				VC	5.917015	
3402			300				VC	1.488097	
4622	72.19	70.84	150				VC	25.68022	1 n 205
4624	70.53	68.15	300				VC	16.00377	1 n 100
5802	74.33	72.08	150				VC	11.75014	1 n 153
5811			300				VC	16.5	
4612	72.55	69.79	150				VC	56.02091	1 n 153
4612	71.38	0	150				VC	51.57984	
4612	71.38	70.43	150				VC	51.62917	
4612	71.38	70.43	150				VC	16.6205	1 n 119
4604	74.49	71.88	150				VC	22.94392	1 n 153
5711	74.47	72.49	225				VC	43.45028	1 n 107
5713	69.69	67.54	300				VC	10.33255	1 n 161
5307			300				VC	16.51	
4505	74.66	72.01	150				VC	56.02091	1 n 227
4505	71.93	70.38	150				VC	9.524017	1 n 107
5506			0	300			VC	5.917015	
5506	74.48	70.63	150				VC	55.47234	
4607	69.51	67.28	300				VC	16.02341	1 n 146
8305			150				VC	6.843306	
8305	74.56	72.6	150				VC	44.63219	
8305	74.56	72.6	150				VC	12.75014	
8305	74.56	72.6	150				VC	5.24783	
4604	74.42	72.19	225				VC	25.40302	1 n 319
4603	74.76	71.08	150				VC	9.546390	1 n 154
4604	74.76	71.59	375				VC	1.54	1 n 154
8814			150				VC	7.170071	
4604	70.2	69.22	150				VC	15.13448	1 n 22
8415			150				VC	30.04509	
4811	72.18	70.34	150				VC	27.44311	
4813	72.23	70.37	150				VC	6.68271	1 n 154
4910	74.55	71.55	375				BR	14.05942	1 n 351
8815			150				VC	7.11091	
8815			150				VC	11.43398	
4604	72.88	69.89	150				VC	14.0735	1 n 154
8805			225				VC	11.2715	
3807	72.9	70.33	300				VC	14.8067	1 n 106
6807	72.2	70.17	300				VC	20.87321	1 n 154
6809			150				VC	14.2308	
6809			150				VC	6.71026	
8807			150				VC	8.87824	
4607	74.51	70.92	150				VC	21.60011	1 n 40
4911	74.46	72.9	225				VC	43.61435	1 n 150
4911	71.83	70.18	150				VC	3.50227	
5818			150				VC	3.95013	
6713			150				VC	12.78175	
4604	72.23	70.78	150				VC	11.66011	1 n 154
4608	74.31	72.37	150				BR	18.10551	1 n 151
4608	74.31	72.37	150				VC	12.6016	1 n 151
4608	74.31	72.37	150				VC	32.38188	
4608	74.78	71.75	150				VC	13.69682	1 n 86
4617			150				VC	5.8503	
4617			150				VC	6.49089	
6817			150				VC	19.58393	
4801	74.59	71.66	150				VC	24.53071	1 n 144
4817			150				VC	19.88179	
3808	72.55	70.25	300				VC	11.8761	1 n 148
6817	72.2	70.17	300				VC	21.83179	1 n 15
4608	69.9	68.54	300				VC	47.19812	1 n 157
4608	74.28	72.43	150				VC	24.0456	1 n 150
4603	74.4	71.88	150				BR	31.62279	
4603			150				VC	7.45441	
4603			150				VC	15.74528	
4604	72.96	70.9	150				VC	20.2807	
6713			150				VC	6.46702	1 n 138
6711			150				VC	4.40742	
4612	73.49	72.2	150				VC	41.11516	1 n 157
4610	72.21	70.88	150				VC	31.40096	1 n 15
4610			150				VC	12.5565	
4619			150				VC	9.918147	
4619	74.44	71.83	150				VC	26.3028	
4604	74.74	71.01	150				VC	55.82413	1 n 147
5710	74.59	72.49	300				VC	14.44217	1 n 161
5714			150				VC	6.88481	
5714			150				VC	6.42474	
4608	74.57	72.11	300				VC	12.14435	
4608	74.57	72.11	300				VC	23.50743	1 n 235
3515			150				VC	31.44687	
3515			150				VC	10.15714	
7801	78.31	76.31	300				VC	45.6508	1 n 123
7801			225				VC	21.93179	1 n 18
6901	79.21	0	150				VC	2.20485	
6901	79.21	0	150				VC	29.8905	
3801	69.59	68.5	230				VC	12	1 n 46
4703	72.1	69.65	150				VC	59.1984	1 n 155
4601	80.48	77.08	230				VC	91.87819	1 n 157
4601	80.48	77.08	230				VC	19.4369	1 n 157
3809	68.85	68.9	225				VC	45.17743	1 n 78
4703	72.1	70.23	150				VC	60.0723	1 n 150
4703	72.1	70.23	150				VC	43.17743	1 n 150
3801	71.7	69.72	150				VC	42.95348	1 n 100
3801	77.85	74.53	450				VC	36.0551	1 n 134
3517			150				VC	12.17035	
3517			150				VC	5.3109	
3710	71.38	68.13	300				VC	58.25192	1 n 42
7402	72.84	74.62	225				VC	2.424	1 n 71
7402	72.84	74.62	225				VC	14	
6707	79.82	0	300				VC	30.8899	
6707			300				VC	27.2949	
3407	69.8	64.81	610				BR	4	
3407	69.8	64.81	610				VC	45.18877	1 n 59
5801	77.27	71.13	150				VC	9.84858	1 n 59
5801	77.27	71.13	150				VC	34.2403	1 n 59
7402	81.28	75.48	380				VC	90.35196	1 n 192
7418			150				VC	2.88339	
7418			150				VC	12.55152	
3409	69.95	65.74	525				VC	13	
3502	81.2	75.2	450				VC	12.84159	
3704	71.68	68.8	300				VC	43.01183	1 n 269
3704	71.68	68.8	300				VC	11	
3501	68.83	67.64	230				VC	19.10497	
3501	68.83	67.64	230				VC	19.10497	
7803	78.71	75.38	380				VC	25.05903	1 n 211
8803	83.93	80.43	300				VC	59.84164	1 n 198
3709	67.84	65.9	300				VC	21.83179	1 n 15
3709	70.55	69.23	300				VC	13.0384	1 n 34
5602	71.6	69.12	300				VC	42.1071	1 n 157
5602	71.6	69.12	300				VC	40.9033	
7704	79.41	76.96	300				VC	11.45175	1 n 127
7704	79.41	76.96	300				VC	43.8261	1 n 127
3814	71.61	69.57	450				VC	57.14018	1 n 100
8461	80.9	78.05	225				VC	20.8487	1 n 100
7919			225				VC	56.02406	
7902	79.03	75.93	300				VC	20.45025	
7902			300				VC	54.10204	1 n 132
7902			300				VC	16.51	
8501	79.34	75.75	380				VC	30.8899	1 n 68
8501	79.34	75.75	380				VC	12.5259	
7510	79.08	74.27	450				VC	12.06395	1 n 134
7510	79.08	74.27	450				VC	37.12142	1 n 156
6701	77.42	70.33	380				VC	43.99648	1 n 54
3529		0	375				VC	33.54081	
3529	70.16	69.30	300				VC	3.80551	1 n 36
7511	71.78	74.07	610				BR	24.35159	1 n 152
7511	71.78	74.07	610				PVC	12.3517	
8507	79.88	78.13	230				VC	39.01282	1 n 152
8507			230				VC	65.0206	1 n 18
8507	70.75	67.2	300				VC	8	
8507	70.75	67.2	300				VC	44.28447	1 n 221
8507	70.75	67.2	300				VC	77.41447	1 n 221
8507	71.55	67.85	225				VC	56.818	
8507	71.55	67.85	225				VC	48.29851	1 n 36
8624			150				VC	18.7831	
5903	75.81	68.85	150				VC	87.29437	1 n 198
5903			150				PVC	3.85334	
7808	79.18	76	230				VC	91.84272	1 n 111
7808	77.35	70.91	875				VC	18.12452	1 n 173
7803	81.41	79.88	230				VC	45.17743	1 n 103
7803	81.41	79.88	230				VC	27.11152	
8501	77.67	76.14	230				VC	46.95743	1 n 85
7301	78.18	0	1900				BR	230.2173	
7301	78.18	70.08	230				VC	45.5269	1 n 198
4500	70.72	69.7	225				VC	88.20075	1 n 42
6902	75.35	76.67	230				VC	25.82424	
6902	75.35	76.67	230				VC	9.48808	
7301	76.1	74.27	600				VC	23.47891	1 n 391
7301	76.1	74.27	600				VC	34.05877	1 n 391
7806	80.38	78.55	300				VC	67.08304	1 n 154
7806			300				VC	7.86164	
6908	69.25	68.3	300				VC	37.21599	1 n 168
7702	77.01								

Refno	Cover	Func	Invest	Size x	Shape	Mat	Length	Grad
*7703	78.85	CO	78.8	230		VC	27.73085	
*7708		FO		100		VC	7.708321	1 in 12
*3507	68.87	FO	68.3	225		VC	47.05685	1 in 96
*6700	78.83	FO	74.97	375		VC	45.60065	1 in 10
*5112		FO		100		VC	6.828234	
*5501	75	CO	0	300		VC	17.48425	
*5816		CO		100		VC	15.17285	
*5104	78.87	CO	69.1	375		VC	37.74723	1 in 270
*3003	71.11	CO	68.08	300		VC	65.3163	1 in 48
*3530		CO		150		VC	22.72952	
*3002	71.52	CO	69.2	375		VC	22.15584	1 in 101
*3303	67.86	SW	64.61	450		BR	75.10859	1 in 70
*3059	69.84	CO	68.84	230		VC	18.02778	1 in 10
*3813	68.79	CO	65.92	300		VC	40.11234	1 in 25
*5501	72.7	CO	68.08	300		VC	50.92151	1 in 288
*3002	69.73	CO	68.72	300		VC	38.9529	1 in 91
*7004	79.29	CO	77.45	230		VC	7.762191	1 in 99
*4112		CO		150		VC	5.588696	
*7500	78.34	CO	78.34	230		VC	51	1 in 255
*7002	71.5	CO	68.37	300		VC	50.15974	1 in 52
*7501	78.19	CO	76.53	230		VC	10.83015	1 in 8
*6202	85.82	CO	77.63	450		BR	58.13777	1 in 99
*7504	72.79	CO	74.71	375		VC	25.83201	1 in 61
*3708	71.46	CO	70.24	230		VC	31.14462	
*3912	70.88	CO	68.84	230		VC	61.75863	
*3805	70.03	CO	69.03	230		VC	12	1 in 31
*7002	79.88	CO	77.22	300		VC	74.68843	1 in 100
*5834		CO		150		VC	13.01874	
*5501	71.25	CO	68.85	230		VC	38.11624	1 in 42
*7801	82	CO	75.65	230		VC	34.48188	1 in 203
*7500	68.88	CO	68.91	230		VC	12.04189	1 in 18
*3804	69.05	FO	66.72	150		VC	9.658389	1 in 82
*7002	78.28	CO	0	600		BR	3.162278	
*7001	71.82	CO	68.32	450		CO	27.51388	1 in 2
*8817		CO		150		VC	10.85687	
*6001	80.83	CO	78.73	230		VC	71.76891	1 in 47
*4505	70.8	CO	69.92	300		VC	98.34887	1 in 48
*7004	78.38	CO	75.51	300		VC	58.79789	1 in 123
*7809	77.84	CO	75.84	300		VC	53.65583	1 in 65
*8505	75.77	CO	75.5	450		VC	12.16553	
*7001	71.82	CO	68.32	450		PVC	3.841551	
*8817		CO	64.41	600		BR	107.8589	
*6908		CO		100		VC	8.848272	1 in 128
*3400	68.24	CO	0	300		VC	69.48222	
*7000	77.53	CO	78.12	225		VC	45.17743	1 in 120
*8300	78.3	CO	75.5	300		VC	97.88979	1 in 100
*8500	75.13	CO	75.13	300		VC	45.65085	1 in 78
*6301	72.13	CO	71.53	300		VC	68.18338	
*6414		CO		150		VC	8.789898	
*5700	77.38	CO	70.7	300		VC	64.25729	1 in 68
*3403	69.88	CO	68.15	300		VC	5.09092	1 in 102
*7008	78.92	CO	77.07	230		VC	45.17743	1 in 100000268
*6828		CO		150		VC	3.345008	
*5700	75.05	CO	66.76	300		VC	59.21149	1 in 28
*3507	77.38	CO	71.38	230		VC	38.35632	1 in 173
*5207		CO		230		VC	5.536881	
*3411	69.33	CO	68.09	525		CO	25.17390	1 in 83
*4701	70.67	CO	66.96	375		VC	25.83201	1 in 233
*9007		CO		100		PVC	13.97052	
*7403	78.1	CO	75.05	300		VC	49.01723	1 in 44
*7521		CO		150		VC	6.414452	
*4300	70.68	SW	66.01	375		VC	81.3941	1 in 41

LEGEND

Abandoned
Foul
Surface Water
Combined

All point assets follow the standard colour convention:

- red - combined
- blue - surface water
- brown - foul
- purple - overflow

● Manhole ● Head of System ● Extent of Survey ● Rodding Eye ● Inlet ● Discharge Point ● Vortex ● Penstock ● Washout Chamber ● Valve ● Non Return Valve ● Soakaway ● Gully ● Cascade ● Flow Meter ● Hatch Box ● Oil Interceptor ● Summit ● Drop Shaft ● Orifice Plate	● Side Entry Manhole ○ Outfall ■ Screen Chamber ■ Inspection Chamber ○ Bifurcation Chamber ■ Lamp Hole ■ T Junction / Saddle ○ Catchpit ○ Valve Chamber ■ Vent Column ○ Vortex Chamber ○ Penstock Chamber ■ Network Storage Tank ■ Sewer Overflow ■ Ww Treatment Works ▲ Ww Pumping Station ■ Septic Tank ■ Control Kiosk ▽ Change of Characteristic
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MANHOLE FUNCTION

FO	Foul
SW	Surface Water
CO	Combined
OV	Overflow

SEWER SHAPE

CI	Circular	TR	Trapezoidal
EG	Egg	AR	Arch
OV	Oval	BA	Barrel
FT	Flat Top	HO	HorseShoe
RE	Rectangular	UN	Unspecified
SQ	Square		

SEWER MATERIAL

AC	Asbestos Cement
BR	Brick
PE	Polyethylene
RP	Reinforced Plastic Matrix
CO	Concrete
CSB	Concrete Segment Bolted
CSU	Concrete Segment Unbolted
CC	Concrete Box Culverted
PSC	Plastic / Steel Composite
GRC	Glass Reinforced Plastic
DI	Ductile Iron
PVC	Polyvinyl Chloride
CI	Cast Iron
SI	Spun Iron
ST	Steel
VC	Vitrified Clay
PP	Polypropylene
PF	Pitch Fibre
MAC	Masonry, Coursed
MAR	Masonry, Random
U	Unspecified

Address or Site Reference:

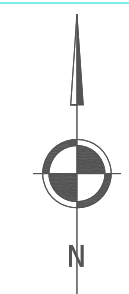
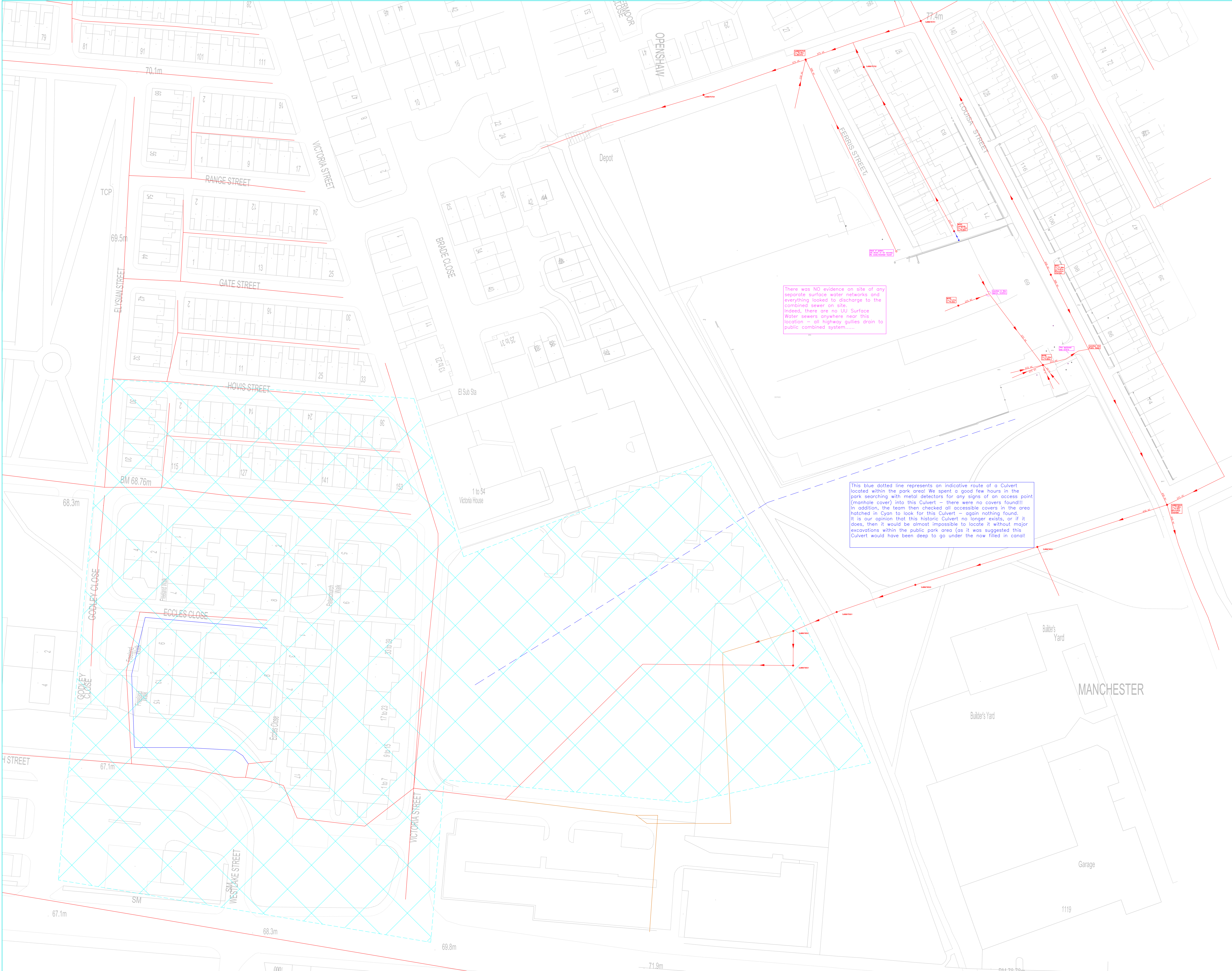
Louisa Street Works Openshaw,

Scale: 1:1250
Date: 25/07/2022

Sheet: 1 of 1

Printed by: Property Searches

SEWER



Legend/Notes:

- Combined Sewer
- Foul Sewer
- SW Sewer
- Assumed Sewer (Not Proven)
- Rising Main
- Highway Drainage
- Culvert Sewer
- Open Water Course
- Overflow Line
- Treated Line
- Rain Water Down Pipe
- Foul Down Pipe
- Combined Down Pipe
- Grey Water Down Pipe
- Highway Gully
- Septic Tanks
- Direction of overland flows
- Spot levels

There was NO evidence on site of any separate surface water networks and everything looked to discharge to the combined sewer on site. Indeed, there are no UU Surface Water sewers anywhere near this location – all highway gullies drain to public combined system.....

This blue dotted line represents an indicative route of a Culvert located within the park area! We spent a good few hours in the park searching with metal detectors for any signs of an access point (manhole cover) into this Culvert – there were no covers found!!! In addition, the team then checked all accessible covers in the area hatched in Cyan to look for this Culvert – again nothing found. It is our opinion that this historic Culvert no longer exists, or if it does, then it would be almost impossible to locate it without major excavations within the public park area (as it was suggested this Culvert would have been deep to go under the now filled in canal)

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Email: kevin@invek.com – www.invek.com

Client
Westchurch Homes

Drawing Title
**Louisa Street
Drainage Layout**

Scale(s)	N.T.S	Drawn	PW
Date	09.02.23	Checked	RD
Job Number	2061	Approved	KN

Sheet Size, Drawing Number & Revision
A1_2061/01_Rev_00