MG Drainage Ltd
Unit 10 Avebury Court Mark Road, Hemel Hempstead
Tel. 01442 211967
cctvreports@blockage.co.uk

Project

Project Name:	CV2956 Colney Hatch Lane N10
Project Description:	CCTV survey of below ground drainage
Project Number:	CV2956
Project Date:	13/02/2019
Inspection Standard:	MSCC5 Sewers & Drainage GB (SRM5 Scoring)

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Project Information

Project Name	Project Number	Project Date
CV2956 Colney Hatch Lane N10	CV2956	13/02/2019

Site

Company: Colney Hatch Lane
Street: Colney Hatch Lane
Town or City: LONDON
Post Code: N10

Contractor

Company: MG Drainage Ltd
Contact: Terry Alt
Department: CCTV Surveying Department
Street: Unit 10 Avebury Court Mark Road
Town or City: Hemel Hempstead
Phone: 01442 211967
Mobile: 07831 899167
Email: cctvreports@blockage.co.uk

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Project Information

Project Name	Project Number	Project Date
CV2956 Colney Hatch Lane N10	CV2956	13/02/2019

Project Notes

SUMMARY
As arranged, we have attended the above address to carry out a CCTV survey of all the accessible below ground drainage to prove route, connectivity and condition. It would appear that there are 2 No. separate systems of which only the foul water was accessible via manhole chambers. We did manage to survey a single surface water run from a newer UPVC gully outlet, as shown on the drawing (G 04). The remainder of the gullies are Vitrified Clay and have no rodding eye access points so survey works were not possible. The 2 No. side walls of manhole chamber MH 01 have bowed, and this is most likely to have been caused by tree roots. Below is a brief description on each of the surveyed sections.

FOUL DRAINAGE

S1 - Surveyed upstream from MH 01 Connection 1 to Gully G 01 at 17.52 metres. Multiple structural defects have been noted throughout this drainage run, fractures and cracks, and as such they will require remedial works. Both fractures and cracks can allow water loss from a drainage system.

S2/S3 - Surveyed downstream from MH 01 to the main sewer where the survey had to be terminated at 3.46 metres due to 30% debris attached deposits, which we were unable to remove by jetting works. The fracture in the rodding eye is not part of the drainage system and can be left in it's present condition. A single crack was noted at 2.62 metres which could be left in it's present condition, as this is nowhere near the property in question. Although our camera was unable to pass the deposits, the system was not blocked and the deposits are not affecting the flow of the system. However it would be advisable to have the deposits removed. We suspect that the deposits are just past the boundary line of the property, which would mean that this would become the responsibility of the local water authority to attend to, if left and this proved a problem in the future.

S4/S5 - Surveyed upstream from MH 02 Connection 2 to a capped off run at 14.55 metres. Structural and service defects have been noted throughout this drainage run, which again will require remedial works.

S6 - Surveyed downstream from MH 02 to MH 01 at 19.15 metres. 1 No. crack and 1 No. fracture have been noted which are classified as structural defects and should be remedied. Some minor root infiltration and minor scale deposits have also been noted.

S7 - Surveyed upstream from MH 02 Connection 1 to a WC at 5.09 metres. 2 No. cracks have been noted, which will require remedial works.

SURFACE WATER DRAINAGE

S8 - Surveyed downstream from Gully G04 to the main sewer at 18.73 metres. This gully is a newer UPVC gully and the outlet was accessible by removing the inner part of the gully.

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Multiple cracks and fractures have been noted up to approx. 12 metres, which will require remedial works. There are also other junctions possibly taking rainwater outlets/gullies (unconfirmed) from the front of the property.

Generally for this property we would assume that the rainwater outlets/gullies at the front of the property connect to a main sewer in the road, whereas the remainder to the side and rear will probably go to soak-aways at the rear.

RECOMMENDATIONS
Substantial remedial works will be required to Sections S1, S4/5, S6, S7 and S8.

Please contact us if you require an estimate for any or all of the above noted sections.

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Section Inspection - 13/02/2019 - MH01 CON 1

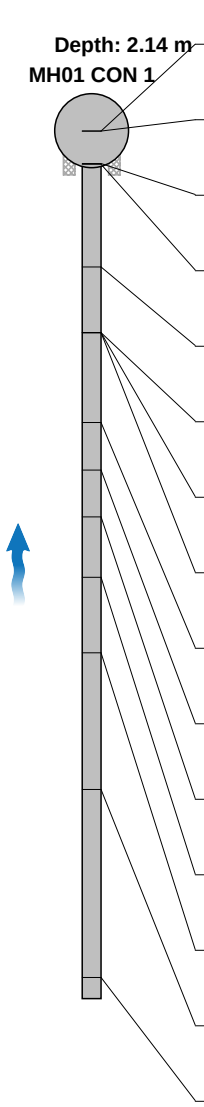
Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	13/02/19	10:04	CV2956	No Rain Or Snow	Yes	MH01 CON 1

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY G01
Road:	22 Colney Hatch Lane	**Inspected Length:**	17.59 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	17.59 m	**Downstream Node:**	MH01 CON 1
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	2.140 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:



Scale: 1:61	Position [m]	Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node type, manhole, reference number: MH01 CON 1	00:00:02		
0.00		WL	Water level, 5 % of the vertical dimension	00:00:03		
0.27	scale	DEZ	Attached deposits, other, from 01 to 05 o'clock, 5 % cross-sectional area loss, scale: scale	00:00:46		4
0.27		DEZ	Attached deposits, other from 7 o'clock to 11 o'clock, 5% cross-sectional area loss: Scale			4
1.10		RFJ	Roots, fine at joint	00:01:29		2
1.63		RTJ	Roots, tap at joint			4
1.63		CCJ	Crack, circumferential at joint from 1 o'clock to 5 o'clock			2 / 2
1.63		RFJ	Roots, fine at joint	00:02:34		2
2.36		CCJ	Crack, circumferential at joint, from 01 to 06 o'clock	00:03:09		2 / 2
2.74		DEZ	Attached deposits, other from 1 o'clock to 3 o'clock, 5% cross-sectional area loss: Scale			4
3.12		FCJ	Fracture, circumferential at joint from 7 o'clock to 9 o'clock			3 / 2
3.61		CCJ	Crack, circumferential at joint from 3 o'clock to 9 o'clock	00:04:54		2 / 2
4.22		CCJ	Crack, circumferential at joint from 12 o'clock to 2 o'clock			2 / 2
5.32		CCJ	Crack, circumferential at joint, from 04 to 11 o'clock	00:07:01		2 / 2
6.84		DEZ	Attached deposits, other from 3 o'clock to 4 o'clock, 10% cross-sectional area loss: Scale			4

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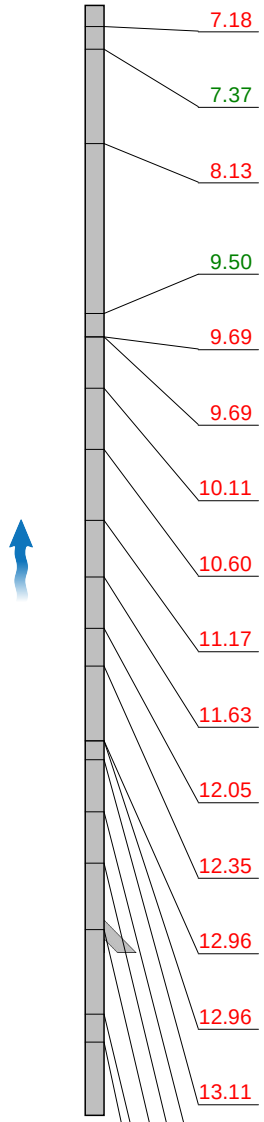
Section Inspection - 13/02/2019 - MH01 CON 1

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	13/02/19	10:04	CV2956	No Rain Or Snow	Yes	MH01 CON 1

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Scale: 1:61



Position [m]	Code	Observation	MPEG	Photo	Grade
7.18	CCJ	Crack, circumferential at joint, from 03 to 04 o'clock	00:08:21		2 / 2
7.37	DEZ	Attached deposits, other from 2 o'clock to 4 o'clock, 5% cross-sectional area loss: Scale			4
8.13	CC	Crack, circumferential, from 11 to 12 o'clock	00:09:02		2 / 2
9.50	DEZ	Attached deposits, other from 1 o'clock to 3 o'clock, 5% cross-sectional area loss: Scale			4
9.69	CL	Crack, longitudinal, at 04 o'clock	00:10:28		2 / 2
9.69	CS	Cracks, spiral from 3 o'clock to 10 o'clock	00:10:50		3 / 2
10.11	CCJ	Crack, circumferential at joint, from 02 to 06 o'clock	00:11:29		2 / 2
10.60	CCJ	Crack, circumferential at joint, from 04 to 10 o'clock	00:11:58		2 / 2
11.17	CCJ	Crack, circumferential at joint, from 08 to 12 o'clock	00:13:13		2 / 2
11.63	CC	Crack, circumferential from 7 o'clock to 3 o'clock	00:13:44		2 / 2
12.05	CC	Crack, circumferential, from 08 to 04 o'clock	00:14:24		2 / 2
12.35	CCJ	Crack, circumferential at joint, from 10 to 02 o'clock	00:14:48		2 / 2
12.96	H	Hole in drain or sewer, at 12 o'clock: assumed	00:15:50		4
12.96	CCJ	Crack, circumferential at joint, from 06 to 12 o'clock	00:16:03		2 / 2
13.11	FC	Fracture, circumferential from 4 o'clock to 2 o'clock	00:16:19		3 / 2
13.53	CCJ	Crack, circumferential at joint, from 02 to 04 o'clock	00:16:42		2 / 2
13.95	CC	Crack, circumferential, from 11 to 12 o'clock	00:17:10		2 / 2
14.48	JN	Junction, at 09 o'clock, diameter: 100 mm	00:18:42		
15.16	CCJ	Crack, circumferential at joint, from 02 to 06 o'clock	00:19:32		2 / 2
15.39	CC	Crack, circumferential, from 03 to 05 o'clock	00:19:50		2 / 2

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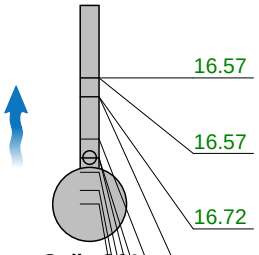
Section Inspection - 13/02/2019 - MH01 CON 1

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	13/02/19	10:04	CV2956	No Rain Or Snow	Yes	MH01 CON 1

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Scale: 1:61



Position [m]	Code	Observation	MPEG	Photo	Grade
16.57	DEZ	Attached deposits, other from 2 o'clock to 4 o'clock, 5% cross-sectional area loss: Scale			4
16.57	DEZ	Attached deposits, other from 5 o'clock to 7 o'clock, 10% cross-sectional area loss: Scale			4
16.72	DER	Settled deposits, coarse, 25 % cross-sectional area loss	00:20:53		4
16.72	GP	General photograph taken at this point	00:20:58	20190213-101032-snap0000.jpg	
17.06	FC	Fracture, circumferential from 12 o'clock to 5 o'clock			3 / 2
17.21	GP	General photograph taken at this point	00:25:41	20190213-101032-snap0001.jpg	
17.21	JN	Junction, at 12 o'clock, diameter: 100 mm: SVP01	00:25:41		
17.33	DEZJ	Attached deposits, other at joint from 9 o'clock to 3 o'clock, 20% cross-sectional area loss: Concrete	00:26:25		4
17.48	LU	Line deviates up			
17.59	GYF	Finish node type, gully, reference number: Gully G01	00:28:12		

Depth: 0.00 m

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
24	90.0	24.4	430.0	4.0	36	10.0	4.9	86.0	5.0

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Section Pictures - 13/02/2019 - MH01 CON 1

Section	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
1	Upstream	MH01 CON 1	CV2956	CV2956

20190213-101032-snap0000.jpg, 00:20:58, 16.72 m
General photograph taken at this point

20190213-101032-snap0001.jpg, 00:25:41, 17.21 m
General photograph taken at this point

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Section Inspection - 13/02/2019 - MH01 CON X

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
2	2	13/02/19	11:34	CV2956	No Rain Or Snow	No	MH01 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	MH01 CON X
Road:	22 Colney Hatch Lane	**Inspected Length:**	3.09 m	**Upstream Pipe Depth:**	2.040 m
Location:	Property with buildings	**Total Length:**	6.00 m	**Downstream Node:**	MAIN
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	0.000 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:

Scale: 1:53	Position [m]	Code	Observation	MPEG	Photo	Grade
Depth: 2.04 m						
MH01 CON X						
	0.00	MH	Start node type, manhole, reference number: MH01 CON X	00:00:02		
	0.00	WL	Water level, 5 % of the vertical dimension	00:00:02		
	0.01	JN	Junction, at 06 o'clock, diameter: 150 mm	00:00:09		
	0.46	SC	Pipe size changes, new size(s)	00:00:29		
	3.08	DEZ	Attached deposits, other from 3 o'clock to 7 o'clock, 30% cross-sectional area loss: Unknown	00:01:17		4
	3.09	SA	Survey abandoned: Unable to pass	00:03:07		
	6.00		End of pipe			
MAIN						
Depth: 0.00 m						

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
0	0.0	0.0	0.0	1.0	1	8.0	1.3	8.0	4.0

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Section Inspection - 13/02/2019 - MH01 CON X

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
3	3	13/02/19	11:48	CV2956	No Rain Or Snow	Yes	MH01 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

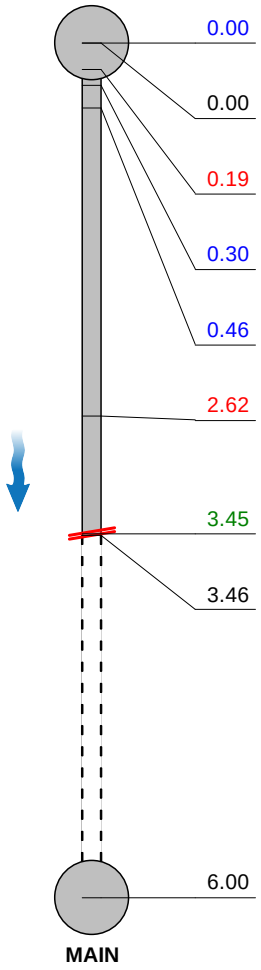
Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	MH01 CON X
Road:	22 Colney Hatch Lane	**Inspected Length:**	3.46 m	**Upstream Pipe Depth:**	2.040 m
Location:	Property with buildings	**Total Length:**	6.00 m	**Downstream Node:**	MAIN
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	0.000 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:

Scale: 1:53

Depth: 2.04 m
MH01 CON X



MAIN
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node type, manhole, reference number: MH01 CON X	00:00:02		
0.00	WL	Water level, 5 % of the vertical dimension	00:00:02		
0.19	FC	Fracture, circumferential from 1 o'clock to 6 o'clock: In rodding eye	00:00:20		3 / 2
0.30	JN	Junction, at 06 o'clock, diameter: 150 mm	00:00:26		
0.46	SC	Pipe size changes, new size(s), 150mm high			
2.62	CCJ	Crack, circumferential at joint, from 02 to 05 o'clock	00:01:26		2 / 2
3.45	DEZ	Attached deposits, other from 3 o'clock to 6 o'clock, 30% cross-sectional area loss: Unknown			4
3.46	SA	Survey abandoned: Unable to pass	00:02:39		
6.00		End of pipe			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
2	40.0	8.3	50.0	3.0	3	8.0	1.7	10.0	4.0

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Section Inspection - 13/02/2019 - MH02 CON 2

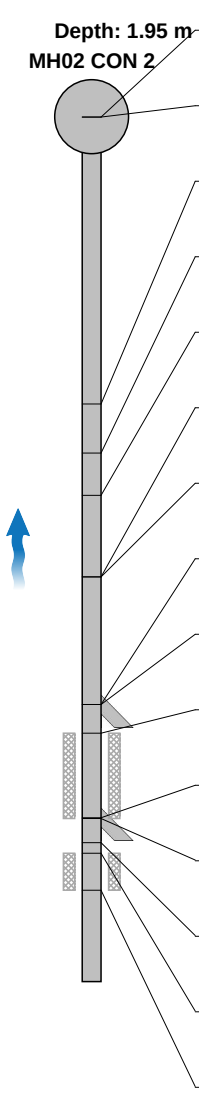
Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	4	13/02/19	12:17	CV2956	No Rain Or Snow	No	MH02 CON 2

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	CAPPED
Road:	22 Colney Hatch Lane	**Inspected Length:**	10.27 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	14.55 m	**Downstream Node:**	MH02 CON 2
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	1.950 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:



Scale: 1:81 Position [m]		Code	Observation	MPEG	Photo	Grade
0.00		MH	Start node type, manhole, reference number: MH02 CON 2	00:00:01		
0.00		WL	Water level, 5 % of the vertical dimension	00:00:03		
3.08		CCJ	Crack, circumferential at joint from 12 o'clock to 5 o'clock	00:01:07		2 / 2
3.61		CCJ	Crack, circumferential at joint, from 11 to 10 o'clock	00:01:26		2 / 2
4.07		CC	Crack, circumferential, from 08 to 10 o'clock	00:01:45		2 / 2
4.94		CCJ	Crack, circumferential at joint, from 01 to 04 o'clock	00:02:25		2 / 2
4.94		CCJ	Crack, circumferential at joint, from 02 to 06 o'clock	00:02:41		2 / 2
6.31		GP	General photograph taken at this point	00:03:13	20190213-121924-snap0000.jpg	
6.31		JN	Junction, at 11 o'clock, diameter: 100 mm: SVP02	00:03:13		
6.61	S01	DEZ	Attached deposits, other from 5 o'clock to 7 o'clock, 10% cross-sectional area loss, start: Scale	00:01:07		
7.52		JN	Junction at 9 o'clock, diameter: 100mm: Gully G02	00:01:07		
7.53	F01	DEZ	Attached deposits, other from 5 o'clock to 7 o'clock, 10% cross-sectional area loss, finish: Scale	00:01:07		4
7.79		CC	Crack, circumferential from 2 o'clock to 4 o'clock	00:01:07		2 / 2
7.90	S02	DEZ	Attached deposits, other from 4 o'clock to 7 o'clock, 15% cross-sectional area loss, start: Scale	00:04:37		
8.30	F02	DEZ	Attached deposits, other from 4 o'clock to 7 o'clock, 15% cross-sectional area loss, finish: Scale	00:04:37		4

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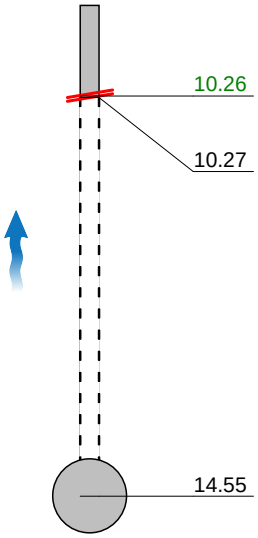
Section Inspection - 13/02/2019 - MH02 CON 2

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	4	13/02/19	12:17	CV2956	No Rain Or Snow	No	MH02 CON 2

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Scale: 1:81



Position [m]	Code	Observation	MPEG	Photo	Grade
10.26	DEZ	Attached deposits, other from 3 o'clock to 9 o'clock, 50% cross-sectional area loss: scale	00:05:47		5
10.27	SA	Survey abandoned: Unable to proceed - See Section S5	00:07:08		
14.55		End of pipe			

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
6	20.0	4.1	60.0	2.0	9	10.0	1.8	26.0	5.0

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Section Pictures - 13/02/2019 - MH02 CON 2

Section	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
4	Upstream	MH02 CON 2	CV2956	CV2956

20190213-121924-snap0000.jpg, 00:03:13, 6.31 m
General photograph taken at this point

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Section Inspection - 13/02/2019 - MH02 CON 2

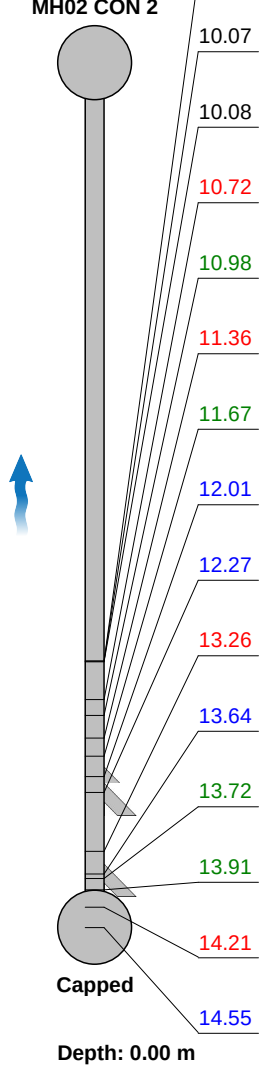
Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
5	5	13/02/19	12:44	CV2956	No Rain Or Snow	Yes	MH02 CON 2

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	CAPPED
Road:	22 Colney Hatch Lane	**Inspected Length:**	4.48 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	14.55 m	**Downstream Node:**	MH02 CON 2
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	1.950 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:



Scale: 1:127 Position [m]	Code	Observation	MPEG	Photo	Grade
10.07	MH	Start node type, manhole, reference number: MH02 CON 2	00:00:01		
10.07	WL	Water level, 5 % of the vertical dimension	00:00:02		
10.08	REM	General remark: Survey continued from Section S4			
10.72	CCJ	Crack, circumferential at joint, from 12 to 12 o'clock	00:00:29		2 / 2
10.98	DEZ	Attached deposits, other from 2 o'clock to 9 o'clock, 5% cross-sectional area loss: Scale	00:00:00		4
11.36	CCJ	Crack, circumferential at joint, from 11 to 04 o'clock	00:00:58		2 / 2
11.67	DEZ	Attached deposits, other from 4 o'clock to 8 o'clock, 5% cross-sectional area loss: Scale	00:00:58		4
12.01	JN	Junction at 11 o'clock, diameter: 100mm	00:01:21		
12.27	JN	Junction at 11 o'clock, diameter: 100mm: Gully G03	00:02:22		
13.26	CC	Crack, circumferential, from 12 to 12 o'clock	00:02:35		2 / 2
13.64	JN	Junction, at 11 o'clock, diameter: 100 mm	00:02:45		
13.72	DEZ	Attached deposits, other from 5 o'clock to 7 o'clock, 10% cross-sectional area loss: Scale	00:02:22		4
13.91	LU	Line deviates up: full	00:02:52		
14.21	CMJ	Cracks, multiple at joint from 12 o'clock to 12 o'clock	00:02:22		3 / 2
14.55	OCF	Finish node type, other special chamber, reference number: Capped off: End of run	00:03:38		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
4	40.0	4.8	70.0	3.0	7	5.0	1.3	19.0	4.0

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Section Inspection - 13/02/2019 - MH02 CON X

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
6	6	13/02/19	13:01	CV2956	No Rain Or Snow	Yes	MH02 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	MH02 CON X
Road:	22 Colney Hatch Lane	**Inspected Length:**	19.15 m	**Upstream Pipe Depth:**	1.970 m
Location:	Property with buildings	**Total Length:**	19.15 m	**Downstream Node:**	MH01
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	2.050 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:

Scale: 1:167	Position [m]		Code	Observation	MPEG	Photo	Grade
Depth: 1.97 m MH02 CON X							
	0.00		MH	Start node type, manhole, reference number: MH02 CON X	00:00:03		
	0.00		WL	Water level, 5 % of the vertical dimension	00:00:05		
	0.34		LR	Line deviates right: Half	00:00:05		
	0.53		DES	Settled deposits, fine, 20 % cross-sectional area loss	00:00:21		4
	1.56		WL	Water level, 5% of the vertical dimension	00:00:05		
	5.78		CCJ	Crack, circumferential at joint, from 08 to 12 o'clock	00:01:28		2 / 2
	7.45		RFJ	Roots, fine at joint	00:00:05		2
	11.02		WL	Water level, 10 % of the vertical dimension	00:02:44		
	16.80	S01	DEZ	Attached deposits, other from 4 o'clock to 8 o'clock, 5% cross-sectional area loss, start: Scale	00:00:05		
	17.00		WL	Water level, 10% of the vertical dimension	00:00:05		
	18.54		FCJ	Fracture, circumferential at joint from 9 o'clock to 3 o'clock	00:05:44		3 / 2
	19.00	F01	DEZ	Attached deposits, other from 4 o'clock to 8 o'clock, 5% cross-sectional area loss, finish: Scale	00:05:44		4
	19.08		DES	Settled deposits, fine, 15% cross-sectional area loss	00:05:44		4
MH01							
	19.15		MHF	Finish node type, manhole, reference number: MH01	00:06:52		
Depth: 2.05 m							

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
2	40.0	2.6	50.0	3.0	6	8.0	1.1	21.0	4.0

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Section Inspection - 13/02/2019 - MH02 CON 1

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	7	13/02/19	14:01	CV2956	No Rain Or Snow	No	MH02 CON 1

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

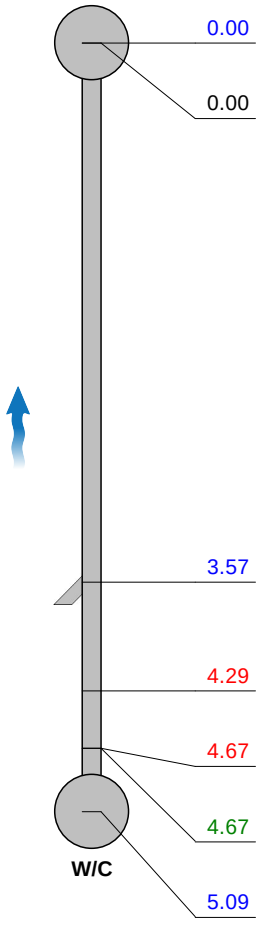
Town or Village:	London	**Inspection Direction:**	Upstream	**Upstream Node:**	W/C
Road:	22 Colney Hatch Lane	**Inspected Length:**	5.09 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	5.09 m	**Downstream Node:**	MH02 CON 1
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	1.900 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Vitrified clay pipe
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:

Scale: 1:50

Depth: 1.90 m
MH02 CON 1



Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node type, manhole, reference number: MH02 CON 1	00:00:03		
0.00	WL	Water level, 5 % of the vertical dimension	00:00:07		
3.57	JN	Junction, at 03 o'clock, diameter: 100 mm	00:00:52		
4.29	CC	Crack, circumferential from 7 o'clock to 3 o'clock	00:01:16		2 / 2
4.67	CC	Crack, circumferential from 5 o'clock to 9 o'clock	00:01:16		2 / 2
4.67	LU	Line deviates up: full	00:01:52		
5.09	OCF	Finish node type, other special chamber, reference number: W/C: W/C	00:02:12		

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	**STR Peak**	**STR Mean**	**STR Total**	**STR Grade**	**SER No. Def**	**SER Peak**	**SER Mean**	**SER Total**	**SER Grade**
3	10.0	5.9	30.0	2.0	3	1.0	0.6	3.0	2.0

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Section Inspection - 13/02/2019 - G04 CON X

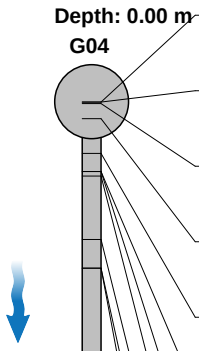
Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	8	13/02/19	14:24	CV2956	No Rain Or Snow	No	G04 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

Town or Village:	London	**Inspection Direction:**	Downstream	**Upstream Node:**	G04
Road:	22 Colney Hatch Lane	**Inspected Length:**	18.73 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	18.73 m	**Downstream Node:**	SEWER
Surface Type:		**Joint Length:**	0.00 m	**Downstream Pipe Depth:**	0.000 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Year Constructed:		**Material:**	Polyvinyl chloride
Flow Control:	No flow control	**Lining Type:**	
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	

Comments: Survey of Below Ground Drainage
Recommendations:



Scale: 1:50 Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	GY	Start node type, gully, reference number: G04 CON X	00:00:01		
0.00	WL	Water level, 5 % of the vertical dimension	00:00:02		
0.01	LD	Line deviates down: Full	00:17:44		
0.11	MCVC	Pipe material changes to vitrified clay at this point	00:17:44		
0.34	REM	General remark: Bottom bend	00:17:44		
0.46	SC	Pipe size changes, new size(s), 150mm high	00:00:00		
0.46	RM	Roots, mass, 5% cross-sectional area loss	00:17:44		3
0.49	FC	Fracture, circumferential from 7 o'clock to 11 o'clock	00:17:44		3 / 2
0.91	CCJ	Crack, circumferential at joint from 9 o'clock to 5 o'clock	00:17:44		2 / 2
1.10	FCJ	Fracture, circumferential at joint from 7 o'clock to 5 o'clock	00:17:44		3 / 2
1.10	RFJ	Roots, fine at joint	00:17:44		2
1.67	FCJ	Fracture, circumferential at joint from 7 o'clock to 5 o'clock	00:17:44		3 / 2
1.67	RFJ	Roots, fine at joint	00:17:44		2
1.75	LL	Line deviates left: Half	00:17:44		
2.24	CCJ	Crack, circumferential at joint from 9 o'clock to 2 o'clock	00:17:44		2 / 2

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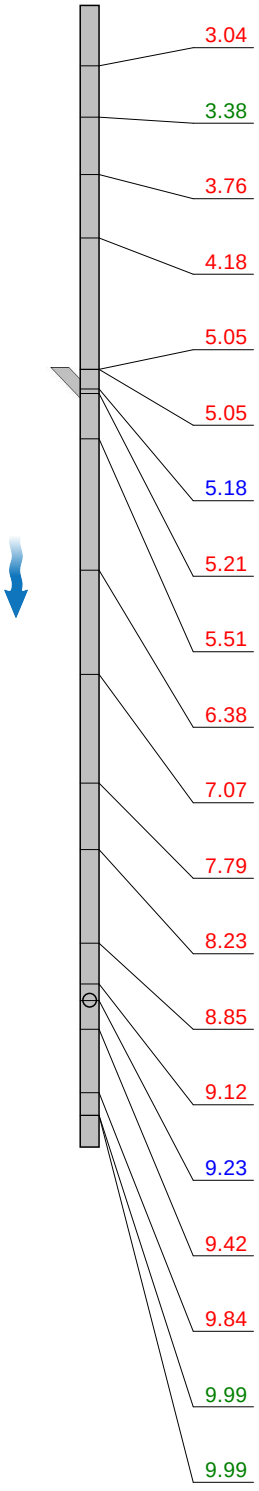
Section Inspection - 13/02/2019 - G04 CON X

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	8	13/02/19	14:24	CV2956	No Rain Or Snow	No	G04 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified



Scale: 1:50	Position [m]	Code	Observation	MPEG	Photo	Grade
	3.04	FCJ	Fracture, circumferential at joint from 9 o'clock to 3 o'clock	00:17:44		3 / 2
	3.38	RF	Roots, fine	00:17:44		2
	3.76	CC	Crack, circumferential from 12 o'clock to 12 o'clock	00:17:44		2 / 2
	4.18	CC	Crack, circumferential from 12 o'clock to 12 o'clock	00:17:44		2 / 2
	5.05	CCJ	Crack, circumferential at joint from 10 o'clock to 3 o'clock	00:17:44		2 / 2
	5.05	CCJ	Crack, circumferential at joint from 12 o'clock to 1 o'clock	00:17:44		2 / 2
	5.18	JN	Junction at 3 o'clock, diameter: 150mm	00:17:44		
	5.21	FC	Fracture, circumferential from 3 o'clock to 10 o'clock	00:17:44		3 / 2
	5.51	FC	Fracture, circumferential from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	6.38	FCJ	Fracture, circumferential at joint from 7 o'clock to 3 o'clock	00:17:44		3 / 2
	7.07	FC	Fracture, circumferential from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	7.79	FC	Fracture, circumferential from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	8.23	FCJ	Fracture, circumferential at joint from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	8.85	FC	Fracture, circumferential from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	9.12	FCJ	Fracture, circumferential at joint from 7 o'clock to 4 o'clock	00:17:44		3 / 2
	9.23	JN	Junction at 12 o'clock, diameter: 150mm	00:17:44		
	9.42	FC	Fracture, circumferential from 12 o'clock to 12 o'clock	00:17:44		3 / 2
	9.84	CC	Crack, circumferential from 12 o'clock to 12 o'clock	00:17:44		2 / 2
	9.99	LD	Line deviates down	00:17:44		
	9.99	LR	Line deviates right	00:17:44		

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Section Inspection - 13/02/2019 - G04 CON X

Section	Inspection	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	8	13/02/19	14:24	CV2956	No Rain Or Snow	No	G04 CON X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Tommy Hayes	AY17 USV	Max Probe	Not Specified	Not Specified	Not Specified

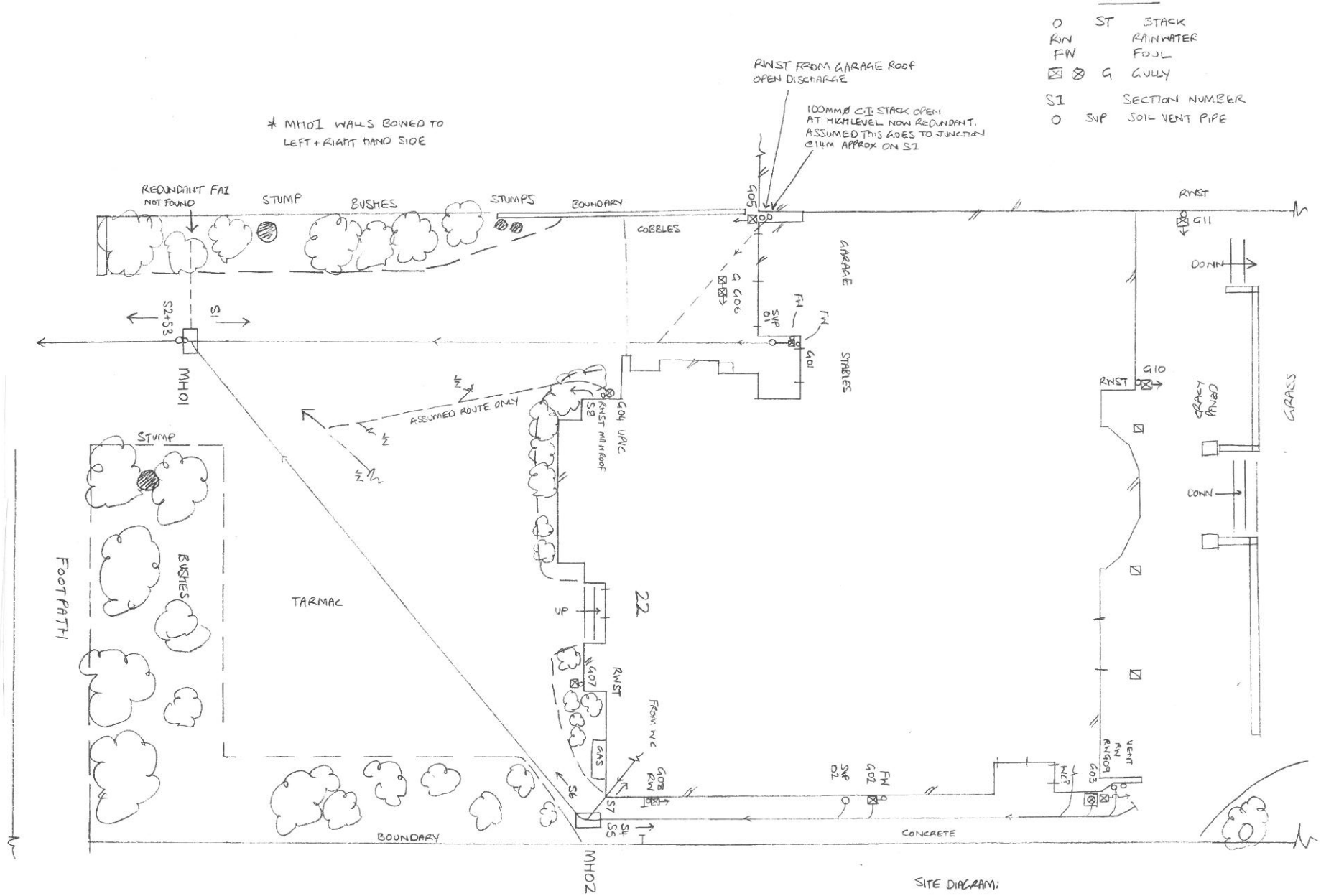
Scale: 1:50

Position [m]	Code	Observation	MPEG	Photo	Grade
10.41	FC	Fracture, circumferential from 7 o'clock to 1 o'clock	00:17:44		3 / 2
10.60	REM	General remark: Junction with sewer	00:17:44		
11.63	CLJ	Crack, longitudinal at joint at 12 o'clock	00:17:44		2 / 2
16.99	LD	Line deviates down	00:17:44		
18.73	BRF	Finish node type, major connection without manhole, reference number: Main Sewer - in road	00:17:44		

Sewer

Depth: 0.00 m

Construction Features					Miscellaneous Features				
Structural Defects					Service & Operational Observations				
STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
22	40.0	34.2	640.0	3.0	26	5.0	1.5	29.0	4.0



SITE DIAGRAM:

DIAGRAMMATIC LAYOUT OF BELOW GROUND DRAINAGE
FOR ILLUSTRATION PURPOSES ONLY - NOT TO SCALE -

CV2956 DATE: 13 FEB 2019

MG DRAINAGE LTD 01442 211967