THE COMPLETE DRAINAGE SERVICE ● CCTV CAMERA SURVEYS ● STRUCTURAL SOFT FELT LINING
REPAIRS WITHOUT EXCAVATIONS ● REFORMING OF PITCH FIBRE PIPES
0800 7 40 80 40
WWW.DRAINSMART.ORG EMAIL: info@drainsmart.org

NATIONAL ASSOCIATION OF DRAINAGE CONTRACTORS CERTIFIED

For the attention of

DATE

Our reference: 12345

CCTV CAMERA INSPECTION REPORT

Site Location – SAMPLE REPORT

Further to recent instruction, our engineers attended the above site location to carry out a CCTV camera inspection of the drainage and our findings are as follows:

Commence survey from Manhole D up branch connection 1. 100mm earthenware pipework. Duty foul water system.

Distance (m)	Observations & Remarks
0.0	Joint, slight bend to left and debris deposits
0.1	Offset joint
0.3	Circumferential fracture
0.7	Offset joint
1.3	Offset joint and possible minor root penetration
1.8	Hole in pipework at 9 o'clock and minor root penetration
2.0	Offset joint, radial fracture and possible minor root penetration
2.3	Branch connection at 3 o'clock to 'ACO' style channel drain
2.5	Offset joint and debris deposits
2.6	Outlet of bath and basin waste gully

Continue survey from Manhole D up branch connection 2 (high level). 100mm earthenware pipework. Duty foul water system.

0.0	Longitudinal fracture to 0.1m
0.1	Joint
0.2	Outlet of yard gully which is fractured

Continue survey from Manhole D downstream. 100mm earthenware pipework. Duty foul water system.

0.0	Joint and water holding in pipework which prevented a full view to 0.7m
0.6	Joint, longitudinal fracture and radial fracture
0.7	Heavy scale deposits
1.0	Joint, scale deposits and circumferential fracture

1.5	Joint, longitudinal fracture and debris deposits
2.1	Joint, circumferential fracture, debris deposits and scale deposits
2.7	Joint and debris deposits
3.3	Joint and debris deposits
3.9	Offset joint, debris deposits and bend to right
4.3	Manhole C

Continue survey from Manhole C up branch connection. 100mm earthenware pipework. Duty foul water system.

0.0	Joint and bend to left
0.3	Joint
0.6	Joint
1.2	Joint
1.9	Offset joint and 90º bend upwards
2.2	Offset joint and 90º bend to level
2.4	Outlet of kitchen sink waste gully

Continue survey from Manhole C downstream. 100mm earthenware pipework. Duty foul water system.

0.0	Joint and minor root penetration from Manhole C
0.1	Joint
0.8	Joint and cement intrusion
1.5	Joint
2.1	Joint
2.8	Joint and radial fracture
3.3	Joint and radial fracture
4.1	Joint and cement intrusion
4.6	Joint and cement intrusion
5.1	Joint and debris deposits
5.9	Joint, debris deposits and radial fracture
6.5	Joint and debris deposits
7.1	Joint and water holding in pipework which prevented a full view
7.8	Joint and debris deposits
8.0	Heavy debris deposits
8.4	Joint
9.0	Joint
9.6	Joint
10.2	Joint
10.9	Manhole B

Continue survey from Manhole B up branch connection 3. 100mm 'super-sleve' pipework. Duty foul water system. Please note this run appears to have been previously renewed using super sleve pipework.

1.6	Joint
3.2	Broken pipework with sections missing. Please note pipework is on the verge of collapse
3.8	Joint
4.2	Joint and 90° bend to soil and vent pipe

Continue survey from Manhole B up branch connection 2. 100mm earthenware pipework. Duty foul water system.

0.0	Heavy debris deposits which prevented passage of the camera. Run is approximately 5.0m in total to ground floor WC

Continue survey from Manhole B up branch connection 1. 100mm earthenware pipework. Duty foul water system.

0.0	Joint and slight bend to left
0.2	Root mass which prevented passage of the camera. Run is approximately 4.0m in total to basin waste gully

Continue survey from Manhole B downstream. 100mm earthenware pipework. Duty foul water system.

0.0	Joint
0.4	Offset joint and circumferential fracture
1.1	Joint
1.8	Joint and cement intrusion
2.3	Joint and radial fracture
2.9	Joint
3.6	Joint and radial fracture
4.2	Joint
4.9	Joint, radial fracture and circumferential fracture
5.5	Joint
6.1	Joint and cement intrusion
6.7	Joint
7.3	Offset joint, cement intrusion and unknown object stuck in pipework
8.0	Joint
8.6	Joint, cement intrusion and circumferential fracture
9.2	Manhole A (rodding access cap cemented in place)

Continue survey from Manhole E upstream to Rainwater Gully 2 (after high pressure water jetting). 100mm earthenware pipework. Duty surface water system.

0.6	Slight offset joint
1.2	Slight offset joint
1.8	Slight offset joint
2.4	Slight offset joint
3.0	Slight offset joint
3.4	Multiple fracturing
3.6	Joint and slight bend to left
3.9	Multiple fracturing and broken pipework
4.2	Severely dropped pipework which has collapsed. Run is approximately 5.0m to Rainwater Gully 2

Continue survey from Manhole E up branch connection to Rainwater Gully 1. 100mm earthenware pipework. Duty surface water system.

0.4	Joint and root penetration

0.5	Circumferential fracture
1.0	Severely dropped pipework at joint, heavy root penetration which prevented passage of the camera and multiple fracturing. Run is approximately 1.8m to gully. Please note a first floor waste pipe has been connected to this gully which contravenes Building Regulations

Continue survey from Manhole E downstream. 100mm earthenware pipework. Duty surface water system.

0.4	Multiple fracturing at 6 o'clock
1.0	Joint
1.6	Joint
2.2	Joint, longitudinal fracture and minor root penetration
2.8	Joint and circumferential fracture
3.4	Joint
4.0	Joint
4.6	Slight offset joint and radial fracture
5.2	Slight offset joint and radial fracture
5.8	Joint
6.4	Joint
7.0	Offset joint, root penetration and heavy debris deposits which prevented passage of the camera. Run is approximately 7.3m to Manhole F

Continue survey from Manhole A downstream (via rodding access). 100mm earthenware pipework. Duty foul water system.

0.3	Outlet of interceptor trap
0.4	Joint
0.8	Approximate front boundary line. Please note that the remainder of this run is communal and the responsibility of the Local Water Authority
1.0	Joint
1.6	Joint
2.2	Slight offset joint
2.8	Slight offset joint
3.4	Joint
4.0	Joint
4.6	Joint
5.2	Joint
5.8	Joint
6.1	Joint and bend to right
6.6	Connection with main sewer

Continue survey from Manhole F downstream. 100mm earthenware pipework. Duty surface water system.

0.6	Joint
1.1	Approximate front boundary line. Please note that the remainder of this run is communal and therefore the responsibility of the Local Water Authority

1.2	Slight offset joint
1.8	Slight offset joint
2.4	Joint
3.0	Joint
3.6	Joint
4.0	Joint and slight bend to right
4.3	Connection with main sewer

Conclusions and Recommendations

It was apparent from the CCTV camera inspection that the accessible private drainage system is in a very poor condition having broken pipework with sections missing, multiple fracturing on the verge of collapse and root masses which will be allowing the loss of water into the surrounding ground area. We were instructed to investigate the drainage due to the frequently blocking sections in the soil and vent pipe and Rainwater Gully 2 drains and our investigations revealed the most serious defects in this area. It was evident that the drain between Manhole B and the soil and vent pipe (up branch connection 3) has already been replaced using 'super-sleve' pipework however this section is severely broken.

Our attached drawing shows the location of fracturing in the wall which is either side of the soil and vent pipe and Rainwater Gully 2 drains and due to the level of damage to the underground pipework, this is most likely the cause. During the excavation to replace parts of there drains, we recommend that the excavation is extended in order to examine the ground below foundation level and provide samples for your structural engineer in order to determine if underpinning should be considered.

The drainage was found to be separated into foul water and surface water systems, both running to connections with the main sewers in the road at the front of the property however our engineer did discover a misconnection at the rear where a yard gully and channel drain have been connected to a foul water system. It was also noted that a waste pipe has been connected to a rainwater pipe which discharges the surface water system and this contravenes Building Regulations.

The system is also suffering from scale and heavy debris deposits together with cement intrusion and an unidentified object which is affecting the free flow of waste through the pipework and prevented a clear view of some sections.

Additionally, the cover on Manhole A was also found to be damaged and requires replacement.

Please note that all of the pipework inspected on the property is private and therefore the responsibility of the homeowner until it passes the front boundary line, after which it becomes the ownership of Thames Water and should blockages occur in this section they will attend to clear free of charge.

In order to return the system to a watertight and free flowing condition, we recommend the following works:

1. To carry out hydro-powered root cutting of all affected runs to remove root growth.

2. To carry out concentrated high pressure water jetting (using scale removing equipment) of all affected runs to remove scale deposits, heavy debris deposits and attempt to remove cement intrusion leave pipework clear and free flowing.

3. To carry out structural soft felt lining from Manhole D up branch connection 1 to bath and basin waste gully to seal pipework to a watertight condition. Upon completion, to utilise specialist Dancutter lateral cutting machinery to reopen branch connection at 2.3m. Please note that this has been recommended to avoid an excavation in the new patio area.

4. To excavate and replace yard gully and initial section of pipework (branch connection 2 in Manhole D) through to chamber, making all necessary connections.

5. To carry out structural soft felt lining from Manhole D downstream to Manhole C to seal pipework to a watertight condition.

6. To carry out structural soft felt lining from Manhole C downstream to Manhole B to seal pipework to a watertight condition.

7. To excavate at soil and vent pipe rest bend (branch connection 3 in Manhole B) and replace with new PVC rest bend together with initial 2.0m of pipework downstream towards the chamber, making all necessary connections.
During the excavation works, to extend down to base of existing foundation to examine the ground below and provide samples for structural engineer.

8. To carry out a further CCTV camera inspection (after high pressure water jetting) from Manhole B up branch connection 2 to ground floor WC to ascertain the condition of the unseen sections and report findings. Please note that further remedial works may be recommended.

9. To carry out a further CCTV camera inspection (after high pressure water jetting) from Manhole B up branch connection 1 to ascertain the condition of the unseen sections and report findings. Please note that further remedial works may be recommended.

10. To remove object wedged in pipework at approximately 7.3m downstream of Manhole B followed by structural soft felt lining through to Manhole A to seal pipework to a watertight condition.

11. To excavate Rainwater Gully 2 (Manhole E upstream) and replace with PVC roddable version. To also replace initial 2.0m of damaged pipework towards chamber, making all necessary connections. During the excavation works, to extend down to base of existing foundation to examine the ground below and provide samples for structural engineer.

12. To excavate and renew defective pipework from Manhole E up branch connection to Rainwater Gully 1 including gully with new PVC roddable version, making all necessary connections.

13. To carry out structural soft felt lining from Manhole E downstream to Manhole F to seal pipework to a watertight condition.

14. To break out defective cover on Manhole A and replace with new pedestrian duty cast iron cover and frame.

15. To backfill all excavations in compacted layers and reinstate all surfaces to match existing where possible.

16. To remove all excess spoil and materials from site and leave clean and tidy.

We would be pleased to carry out the above works for the sum of £ plus VAT and we look forward to receiving your further instructions.

We do hope that the above meets with your approval but should you have any queries please do not hesitate to contact us.

PLEASE NOTE 1: ALL REPAIR WORKS ARE CARRIED OUT BY CERTIFIED ENGINEERS AS PART OF THE NATIONAL ASSOCIATION OF DRAINAGE CONTRACTORS (NADC) SCHEME. THIS ENSURES THAT ANY REMEDIAL WORKS MEET THE HIGHEST INDUSTRY STANDARDS AND CARRY OUR 15-YEAR GUARANTEE AGAINST FAULTY WORKMANSHIP AND MATERIALS. PLEASE BEWARE CONTRACTORS WHO ARE NOT NADC CERTIFIED.

PLEASE NOTE 2:
(A) THE MEASUREMENTS IN OUR REPORTS OR ON OUR RECORDINGS ARE TO BE USED AS A GUIDE LINE ONLY. THE DOTTED LINES SHOWN ON OUR DRAWINGS ARE AN APPROXIMATE ROUTE AND SHOULD NOT BE RELIED UPON. SHOULD CONFIRMATION OF THE ROUTE BE REQUIRED, ELECTRONIC SONDE TRACING WOULD BE NECESSARY.
(B) WE HAVE ALLOWED FOR A THICKNESS OF CONCRETE TO A MAXIMUM OF 150MM AND IF THE ACTUAL DEPTH IS MORE, WE RESERVE THE RIGHT TO REQUEST ADDITIONAL COSTS.
(C) WE WILL UTILISE CAT SCANNING EQUIPMENT PRIOR TO ANY EXCAVATIONS HOWEVER IT IS NOT POSSIBLE TO DETECT POLYMAIN OR SIMILAR PIPEWORK. SHOULD YOU HAVE ACCESS TO ANY SERVICES DRAWINGS, WE WILL REQUIRE A COPY OF THESE PRIOR TO COMMENCEMENT OF WORKS. SHOULD THESE NOT BE PROVIDED AND WE STRIKE A SERVICE PIPE OR CABLE IN THE COURSE OF OUR WORKS, WE RESERVE THE RIGHT TO CHARGE FOR ITS REPAIR.