Auger Ref:
12345.1.UCC

Site Based Drainage Validation Report

The Baptist Church, Church Street
Church Town, CH1 2CH

ABC123REF

Client	Insurance Company
Client ref	000263269
Visit Date	1st December 2012
Report date	2nd December 2012

Prepared by	NW
Approved by	DB

Scotia House, Kelvinside,
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Executive Summary

In summary

Our brief	Auger were commissioned by Insurance Company to validate the 3rd party submitted report by Drain123, following a CCTV survey undertaken on the advice of their architect, that the drainage system should be investigated.
Drain123's cost is £32,928.00	The customer engaged Drain123 to undertake a CCTV survey following a blockage. Drain123 have submitted a quotation to undertake repairs at a proposed cost of £32,928.00.
Auger's cost is £7506.60	Multiple defects have been noted by Drain123 and recommended for repair. Auger have attended site and undertaken a comparative CCTV survey which has highlighted that the cost of the insurable defects would be £7506.60.
Recommended repairs are over-priced and over-scoped	A number of the repairs recommended by Drain123 are not insurable and the rates applied are excessive.
Liability Yes	The defects highlighted as insurable are as a result of root ingress, accidental damage and poor maintenance and should therefore be covered.
Claim cost is £8145.60	The total cost to the Insurance company will be £8145.60 for the investigations to date and for the recommended insurable works. This excludes the policy excess.

Your next actions

Reimburse customer	We recommend that you reimburse the customer £720.00 for the investigations undertaken by Drain123.
Wait for Auger to complete works	We have advised the customer of the outcome of our investigations and they have decided to allow Auger to undertake the recommended works. Auger will collect the policy excess and invoice you accordingly.

Report approved and signed off by
Nicola Betts

Nicola is your account manager and will handle any queries you may have

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Contents

Site Based Drainage Validation Report

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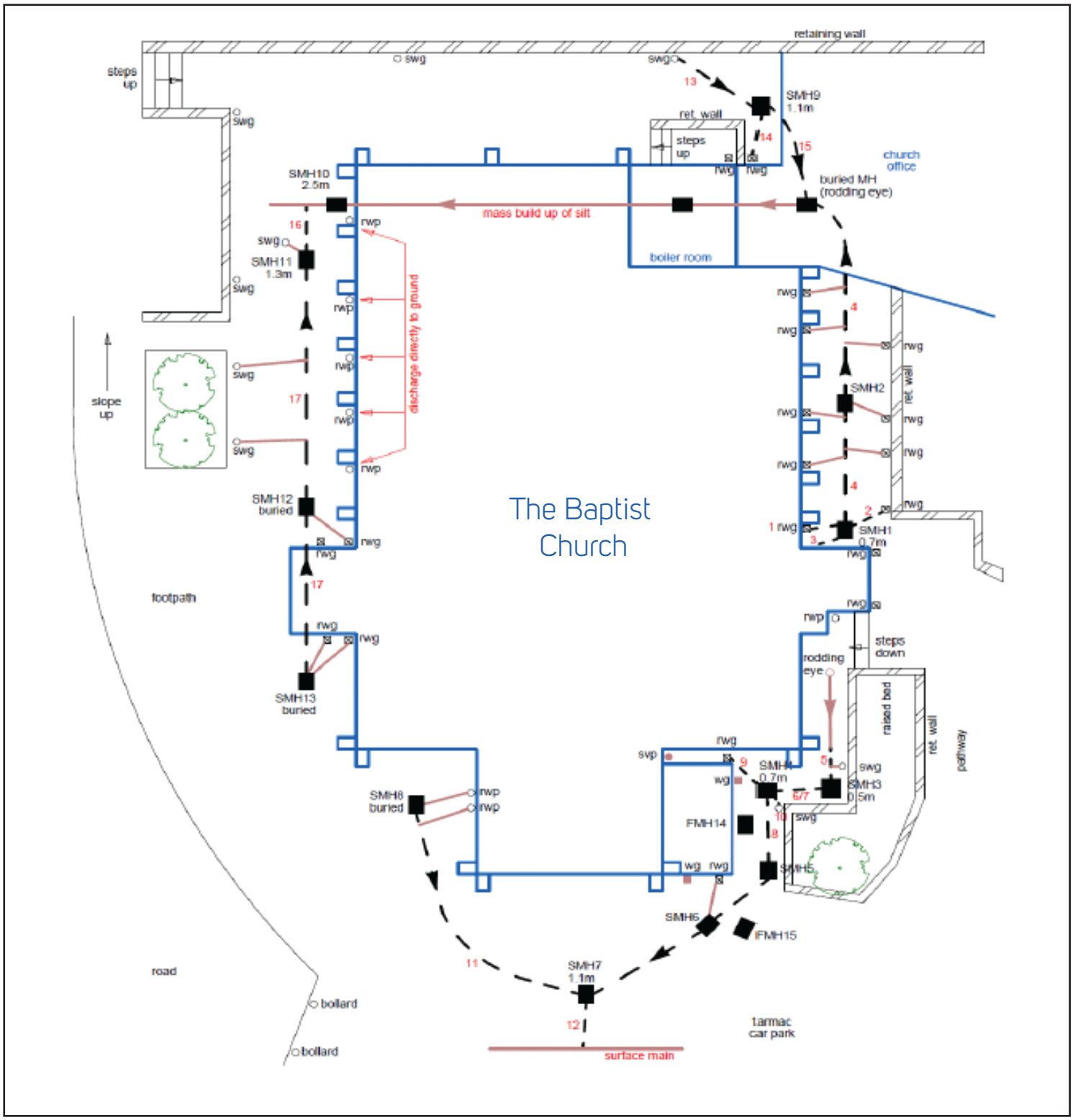
Existing Layout - Surface



Key

- Manhole
- Rainwater Pipe
- Soil & Vent Pipe
- Inspection chamber
- Surveyed line
- Unsurveyed line

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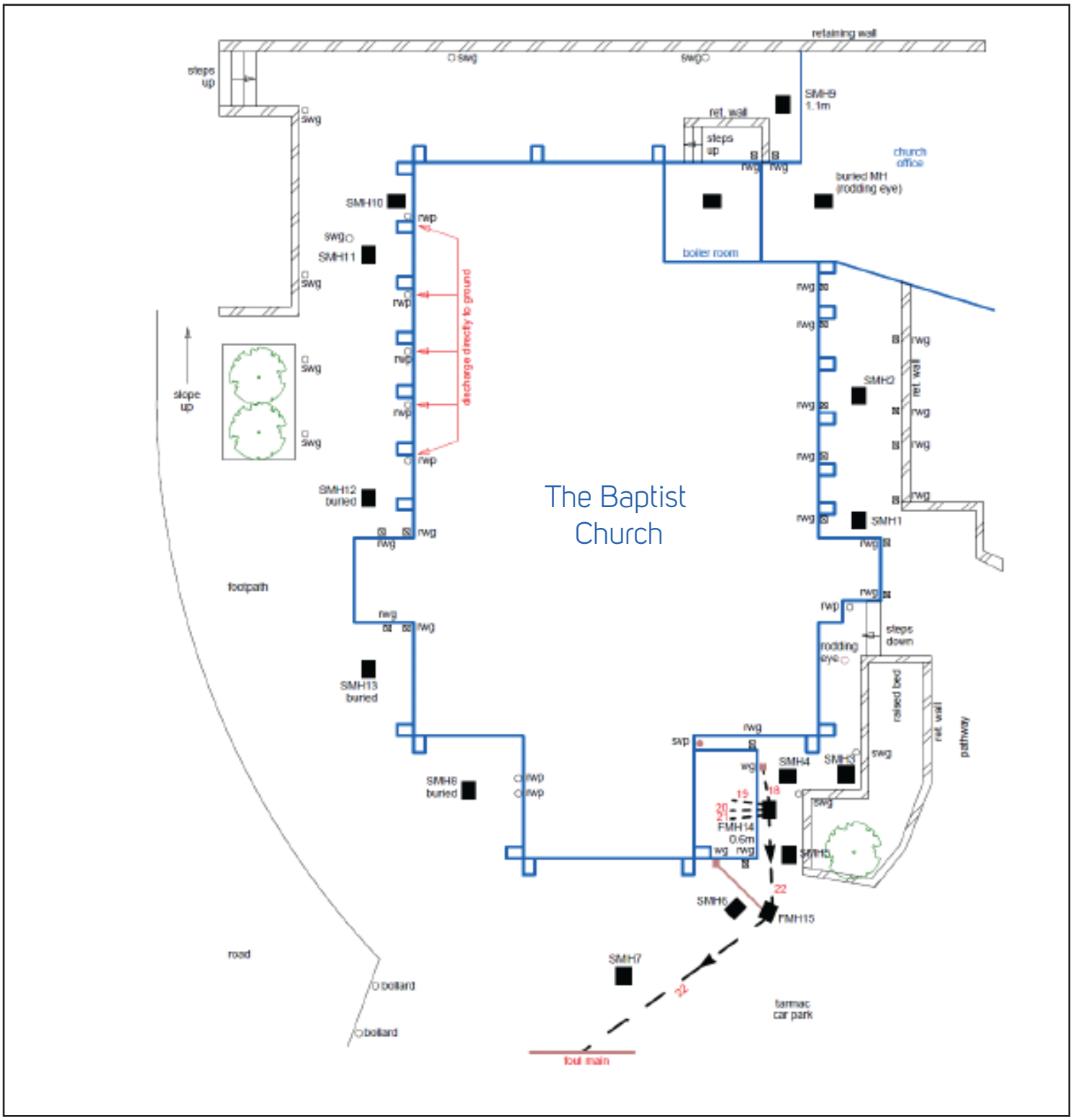
Existing Layout - Foul



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Findings

The Brief

History of the problem

The customer's architect recommended that the customer engage a drainage company (Drain123) to undertake a CCTV survey of the drainage system.

Drain123 then submitted a report and quotation for works to the customer which has been sent to Insurance Company.

The works have not yet been undertaken.

Instruction

Auger were commissioned by Insurance Company to undertake a desktop validation on the information provided by Drain123.

Policy Summary — Insurance Company

Insurer's reference	ABC123XYZ	Inception date	01/01/2010
Incident date	07/12/2012	Policy excess	£100.00
Delegated authority	£5000.00	Trace and access	Yes
Insurance broker	A Broker	Policy limit	£10,000.00

Comments

In order to validate a claim Auger require sufficient information from the contractor. In this case the proposed costs of the works were extremely high (£32,928.00) and Auger took the decision that it would be more cost effective to attend site themselves to gather sufficient information with which to identify liability and the most economical repair scheme (if covered).

Validation — Evidence provided by Drain123

Report	Yes	Invoice	No
Site Layout	Yes	Photos	No
Quotation	Yes	Videos	No

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Findings

The survey

Auger attended site and undertook a CCTV survey of the drainage system.

Wrc Grading of the system

Auger's CCTV survey has been undertaken in accordance with the WRc Drain Repair Book 3. This grades the condition of items within the system as A, B or C and indicates whether they are serviceable.

Unserviceable Condition C

The following was noted within lines 5, 6, 7, 11, 12, 13 & 17 of the drainage system:

- Large joint displacement
- Severe fracturing
- Roots
- Hole in the pipework
- Debris
- Water retention

These surveyed lines of the drainage system have been classified according to the WRc Drain Repair Book: **"– Classified Condition C"**

Unserviceable Condition B

The following was noted within lines 4, 8, 9, 15, & 22 of the drainage system:

- Roots
- Slight water retention
- Debris

These surveyed lines of the drainage system have been classified according to the WRc Drain Repair Book: **"– Classified Condition B"**

Serviceable Condition B

The following was noted within line 99 of the drainage system:

- Roots

These surveyed lines of the drainage system have been classified according to the WRc Drain Repair Book: **"– Classified Condition B"**

Serviceable Condition A

The following was noted within lines 1, 2, 3, 10, 14, 16, 18, 19, 20 & 21 of the drainage system:

- Roots
- Slight water retention
- Debris

These surveyed lines of the drainage system have been classified according to the WRc Drain Repair Book: **"– Classified Condition A"**

Findings (continued...)

Poorly maintained

The significant debris in the system indicates this system has not been maintained correctly, and is currently in a poor condition.

Poor rain-water pipe arrangement

The rainwater downpipes to the left hand side of the church all appear to expel directly on to the ground and not into the surface water system.

There are a number of surface water gullies which we believe connect into the drainage system.

Extensive jetting required

The section of system upstream and down-stream from surface manhole 10 was surcharged and holding 50 % water, this part of the system requires extensive jetting to clear the system so a clear CCTV survey can be undertaken to confirm the condition of the pipework.

Fig 1.1 – Rainwater downpipe expelling directly to ground

Fig 1.2 – Right hand side alley, with both surface and foul manholes.

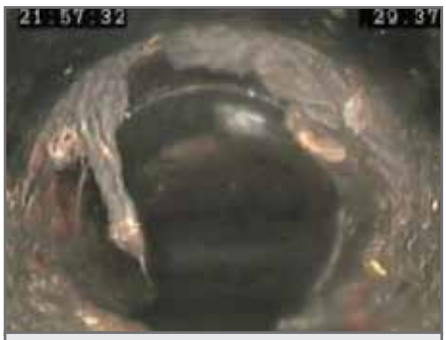

Fig 1.3 – 50% water level

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Findings

Recommendations

Undertake repairs

We recommend the following repairs are undertaken to ensure the system is serviceable and free flowing. See proposed layout.

Line 4 - SMH1 to downstream

Cause of problem	Root ingress	Insurable?
Defects	Root ingress at 3.5m	✓
	Root ingress at 29.7m	✗
Proposed solution	Root cut and jet downstream from MH1 and MH2	✓
	Install patch liner at 3.5m & 29.7m	✗

Line 5 - SMH3 to upstream

Cause of problem	Root ingress	Insurable?
Defects	Mass root ingress at 0.6m	✓
Proposed solution	Replace 1.0m of pipework upstream from MH3	✓
	Replace the surface water gully and connection	✓
	Further investigate	✓

Line 6 - SMH3 to upstream

Cause of problem	Root ingress	Insurable?
Defects	Joint displacement large at 1.8m	✓
	Mass root ingress at 2.1m	✓
Proposed solution	Root cut downstream	✓
	Reline approximately 3.0m between MH4 & MH5	✓

Recommendations (continued)

Line 7 - SMH4 to upstream

Cause of problem	Root ingress	Insurable?
Defects	Joint displacement medium at 0.8m Root ingress at 0.9m	✗ ✗
Proposed solution	Root cut downstream Reline approximately 3.0m between MH4 & MH5	

Line 8 - SMH4 to downstream

Cause of problem	Root ingress	Insurable?
Defects	Root ingress at 8.5m & 9.2m	✓
Proposed solution	Root cut and reline 3.0m downstream from MH6	✓

Line 9 - SMH4 to upstream

Cause of problem	Root ingress	Insurable?
Defects	Root ingress at 0.2m	✓
Proposed solution	Root cut downstream Reline 1.0m upstream from MH4	✓ ✓

Line 11 - SMH7 to upstream

Cause of problem	Root ingress	Insurable?
Defects	Root ingress at 0.2m	✓
Proposed solution	Root cut downstream Reline 1.0m upstream from MH4	✓ ✓

Recommendations (continued)

Line 12 - SMH7 to downstream

Cause of problem	Root ingress	Insurable?
Insurable defect(s)	Joint displacement medium at 0.8m	✗
	Root ingress at 0.9m	✗
Proposed solution	Root cut downstream Reline approximately 3.0m between MH4 & MH5	

Line 13 - SMH9 to upstream

Cause of problem	Root ingress	Insurable?
Insurable defect(s)	Root ingress at 8.5m & 9.2m	✓
Proposed solution	Root cut and reline 3.0m downstream from MH6	✓

Line 17 - SMH11 to upstream

Cause of problem	Root ingress Lack of maintenance	Insurable? ✓
Insurable defect(s)	Circumferential crack at 1.0m & 5.9m	✓
	Debris 10% at 2.1m, 8.0m, 8.8m, 13.6.m	✓
	Water level 10% at 3.0m & 19.0m	✓
	Roots at 8.8m	✓
	Water level 30% at 9.6m & 14.0m	✓
	Debris 30% at 13.9m	✓
	Debris 20% at 14.7m	✓
Proposed solution	Expose connection at 8.7m where root ingress is entering the drain and replace 1.0m	✓
	Further investigate up the connection	✓
	Jet the system clear	✓
	Install a patch liner at 10.4m	✓
	Expose connection at 19.3m	✓
	Replace 1.0m of pipework	✓
	Further investigate	✓

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Findings

Recommendations (continued)

Line 22 - FMH14 to downstream

Cause of problem	Root ingress	Insurable?
Insurable defect(s)	Joint displacement medium at 0.8m Root ingress at 0.9m	✗ ✗
Proposed solution	Root cut downstream Reline approximately 3.0m between MH4 & MH5	✗ ✗

SMH10

Cause of problem	Unknown - severely blocked	Insurable?
Insurable defect(s)	Blockage	✓
Proposed solution	Attempt to clear system upstream and downstream from MH10 with Combi Tanker Undertake further investigations	✓ ✓

Repair Costs	Drain123	Auger
Cost of proposed insurable repairs	£32,928.00	£7506.60
Cost of proposed uninsurable repairs	£0	£850.00

Savings identified

£25,421.40

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Conclusions & Costs

Conclusions

Summary	Our survey has revealed that a number of insurable defects are present at the site.
Investigation costs are acceptable	The customer has already paid investigation costs of £1250 incl VAT. These costs are excessive and we would recommend that you reimburse the no more than £720 incl VAT.
Recommended repairs are over-priced and over-scoped	The recommendations above from Drain123 are overstated when applying WRc grading in terms of serviceability to the condition of the pipework. The majority of the defects identified are not affecting the service-ability of the drain and should not be covered. There are isolated defects that are covered and require repair. Auger's recommended repairs provide the most cost effective solution to restoring the drainage system to being serviceable again.
The customers options	We have advised the customer of the above and they have decided to allow Auger to undertake both the insurable and uninsurable works. We will now act under delegated authority to proceed to undertake the necessary repairs and further investigations.

Your further actions

Reimburse customer	We recommend that you reimburse the customer £720.00 for the investigations undertaken by Drain123

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Conclusions & Costs

Summary of costs payable by Insurance Company

Total cost to you is £8145.60	Reimburse investigation costs	£720.00
	Auger's drain repair costs	£7506.60
	Auger's investigation fee	£720.00
	Auger's additional administration/ design time	£150.00
	Auger's claims management fee	£49.00
	Less policy excess	-£1000.00
	Total	**£8145.60**

All costs are inclusive of VAT

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Line 1

CCTV Chainage

RWP — 0.00m — Start of survey

0.80m — Water level at 20%

Fig 1.3 – 0.80m = Water level at 20%

2.90m — Joint Displacement Medium

Fig 1.4 – 2.90m = Joint displacement medium

6.10m — Junction at 2 o'clock: 100mm plastic pipe

100mm Vitrified Clay Pipe - Combined System

13.45m — Mass Roots 95% cross sectional area loss

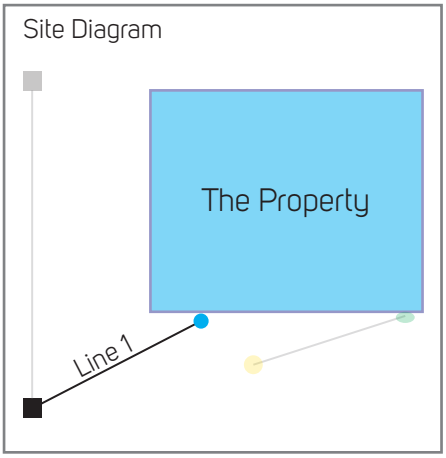
Fig 1.5 – 13.45m = Mass Roots 95% cross sectional area loss

Invert Depth 1.5m

Construction Brick

MH1 — 20.85m — Survey Complete

Site Diagram



WRc Grading

WRc Condition C

WRc Condition B

WRc Condition A

Additional Information

Line Condition	Grade C - Unserviceable
Jetted prior to survey?	No
Operator	Peter Brown