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Marston & Grundy LLP Consulting Engineers
Priory House
Ellesmere Avenue
Marple
Stockport
SK6 7AN

16th January 2017

Dear Sirs,

Reference:- JN26371 Old Fire Station/Cats Protection Wrexham

May we first of all thank you for your valued custom. As requested we have conducted a CCTV inspection at the above premises.

Please find enclosed your CCTV report, and DVD comprising of an adobe copy report and MPEG video(s). Please note that to play the video, you will need to open the application "wincan viewer" on the DVD and select the section number in the top table. Then double click on the video clip icon on the bottom table to view the video. If you experience any difficulties in viewing the video files then please contact us.

We trust that the report is to your satisfaction; however should you have any queries then please do not hesitate to contact me.

Yours sincerely,

**Mr S W Ormisher,
Technical Services Consultant**

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Plan of the drainage system, not to scale.

Job No 26371

Enclosed

Conclusion

As requested a CCTV survey and investigation of drainage lines/manholes serving buildings and surrounding areas as specified. Upon arrival visible inspection found numerous manholes to be located in footpath/verge areas and further investigation found silt, stone and other waste water debris to be contaminating drainage lines/,manholes therefore high pressure tanker jetting was undertaken to remove debris as necessary to prior to the CCTV taking place.

The survey was conducted upstream and downstream from manholes identified and marked on plan accordingly. Evidence from the survey found drainage system to be of 100/150mm clay and PVC construction serving various RWP's/gullies & WC's within and around buildings.

The general condition of lines surveyed was seen to be reasonable and in expected working order throughout although a number of faults were found in certain areas which will require remedial work to be carried out to prevent further deterioration and problems occurring in future if drainage lines are to be retained.

Faults Found:

Section 3 MH1-Branch C

Broken sewer and circumferential cracks was seen at 0.11 & 1.30mtrs which is causing structural weakness within the drain.

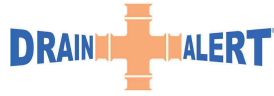
Section 8 MH2-MH3

Circumferential cracks/fractures and a broken sewer were seen throughout which is causing structural weakness within the drain.

Section 10 MH3-MH4

Circumferential crack, broken sewer and hole in sewer were seen throughout causing structural weakness within the drain.

Section 11 MH5-Branch A



Displaced joint was seen at 2.48mtrs causing structural weakness and reduced efficiency within the drain.

Section 12 MH5-Branch B

Circumferential cracks were seen at 0.47mtrs which is causing structural weakness within the drain.

Section 14 MH5-Branch D

Circumferential crack was seen at 0.47mtrs causing structural weakness within the drain.

Section 16 MH5-MH6

Circumferential cracks were seen at 6.26, 7.21 & 7.92mtrs which is causing structural weakness within the drain.

Section 17 MH6-MH4

Root ingress was seen at 1.77 & 7.09mtrs which is causing structural weakness and reduced efficiency within the drain.

Section 20 MH6-Branch B

Displaced joint was seen at 3.07mtrs which is causing structural weakness and reduced efficiency within the drain.

Section 23 MH8-Branch A

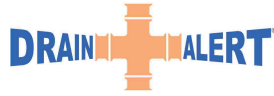
Broken sewer was seen at 0.23 & 0.47mtrs which is causing structural weakness within the drain.

Section 27 MH9-Main Line

Root ingress was seen throughout which is causing structural weakness and reduced efficiency within the drain.

Section 28 MH12-Branch A

Root ingress and circumferential crack was seen at 0.23mtrs & 2.48mtrs which is causing structural weakness and reduced efficiency within the drain.



Section 29 MH12-Branch B

Root ingress was seen at 0.70mtrs which is causing structural weakness and reduced efficiency within the drain.

Section 30 MH12-MH11

Circumferential & longitudinal cracks were seen at 0.94 & 2.83mtrs which is causing structural weakness within the drain.

Section 31 MH10-Branch A

Circumferential cracks were seen at 0.23, 0.59, 1.77 & 21.95mtrs which is causing structural weakness within drain.

Section 32 MH10-Branch B

Broken sewer and hole in sewer were seen at 1.18 & 1.65mtrs which is causing structural weakness and reduced efficiency within the drain.

We trust that the above is acceptable; however should you require any further information, please do not hesitate to contact me.

Yours sincerely,

Mr S W Ormisher,
Technical Services Consultant