SPS
Shakespeare, Pullen & Slade Ltd.

5 Elm Row
London
NW3 1AA

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DRAINAGE INSTALLATION

The primary drainage run serving the property has been identified on the enclosed sketch. This is for reference purposes only and should not be scaled. All dimensions should be checked on site. Invert level taken from outgoing pipework to cover level.

The CCTV footage has been recorded on electronic files; each file reference relates to the heading within the 'title box' in the report under 'CCTV observations'.

As a result of change of legislation, in October 2011, the responsibility of underground drainage systems has shifted. The local Water Authority are now responsible for any drainage systems beyond the boundary of the premises, or any sections that are shared by more than one independent property.

MANHOLE (1) WITH INLETS FROM:

4-inch branch line (1) serving basement cloakroom WC.

4-inch branch line (2) serving soil and ventilation stack to first and second floors.

4-inch branch line (3) serving basement floor gully, Aco channel and back inlets from utility waste and rear porch flat roof.

4-inch branch line (4) serving the 4-inch cast iron soil and ventilation stack; ground and upper floors.

CCTV Observations

Direction: **Pipe Size & Type:**	**Manhole (1) upstream, branch line (1)** **4-inch cast iron**
0.00m	Start of Survey. Internal pipe walls noted to be corroded. Rust attack has blistered causing restriction to flow.
5.50m	Camera enters 90-degree bend. Passing through bend into vertical section of pipework. Connection to WC pan clearly visible.
	Survey terminated.
Summary:	Structurally pipework satisfactory. The line and level in good order, however, requires cleansing.

Direction: Pipe Size & Type:	Manhole (1) upstream, branch line (2) 4-inch cast iron
0.00m	Start of Survey. Heavy corrosion internally to pipe wall. Scale build-up noted.
3.19m	Enter 90-degree rest bend.
3.54m	Exit rest bend into vertical cast iron soil and ventilation stack.
	Survey terminated.
Summary:	Integrity of pipework satisfactory. Requires cleansing.

Direction: Pipe Size & Type:	Manhole (1) upstream, branch line (3) 4-inch cast iron
0.00m	Start of Survey. Pipework heavily corroded. Rust attack to pipework causing restriction to flow with scale build-up.
0.11m	Enter gully trap.
	Survey terminated.
Summary:	Pipework would benefit from cleansing.

Direction: Pipe Size & Type:	Manhole (1) upstream, branch line (4) 4-inch cast iron
0.00m	Start of Survey. Pipework noted to be heavily corroded.
0.06m	Enter rest bend.
1.30m	Exit rest bend into vertical stack.
	Survey terminated.
Summary:	Pipework in good order. Requires cleansing.

Direction: Pipe Size & Type:	Manhole (1) downstream, manhole (2) 4-inch cast iron
0.00m	Start of Survey. Internal pipe wall heavily corroded causing significant resistance to flow. Structurally integrity satisfactory.
6.38m	Enter manhole (2).
	Survey terminated.
Summary:	General line and level of pipework satisfactory. Would benefit from specialist cleansing.

Direction: Pipe Size & Type:	Floor gully, upstream, back inlet line (1) Utility / down pipe. 4-inch cast iron
0.00m	Start of Survey. Pipework heavily corroded. Severe scale deposits noted. Level minimal.
0.30m	Underground connection from Rainwater pipe.
0.70m	Camera enters 45-degree bend. This appears to continue internally to serve utility waste. unable to proceed due to corrosion internally to the drain. Discharge from the utility waste to prove connection. As the camera is retracted at 0.3m underground connection noted from rainwater pipe.
	Survey terminated.
Summary:	Pipework requires cleansing.

Direction: Pipe Size & Type:	Floor gully upstream, back inlet (2) Aco Channel 4-inch Cast iron
0.00m	Start of Survey. Unable to enter pipework due to tight bend in gully line of pipework inviable to Aco connection.
	Survey terminated.
Summary:	Benefit from cleansing.

Direction: Pipe Size & Type:	Floor gully, upstream, back inlet (3) 2" down pipe 4-inch cast iron
0.00m	Start of Survey. Pipework heavily corroded. Severe scale deposits noted. Level minimal.
0.70m	Camera enters 45-degree bend. This appears to continue internally to serve utility waste. unable to proceed due to corrosion internally to the drain. Discharge from the utility waste to prove connection. As the camera is retracted at 0.5m underground connection noted from rainwater pipe.
	Survey terminated.
Summary:	Pipework requires cleansing.

General Observations

The soil and ventilation stack discharging to branch line (2) comprised cast iron soil pipework rising through the rear external staircase receiving waste connections at first floor level. An air admittance valve is provided at this point to prevent siphoning and multiple waste connections in 2-inch pipework having been suitably installed with rodding access points for discharge from various outlets.

The stack continued to rise with a 4-inch PVC section serving the top floor WC and various PVC waste connections. These are not all provided with rodding access points.

The stack itself terminated above the gutter lever with a terminal balloon.

At this time, it was seen to be in reasonable decorative order.

The 4-inch branch serving the back inlet floor gully and Aco channel. The Aco channel acted as a floor gully within the rear porch and continued below the door threshold to serve further Aco channel at the foot of the external staircase. This received 22mm discharge from the plant room. The Aco channel is almost completely blocked by soil build-up and has not been maintained for some time.

The gully itself incorporated an open grid; on removal two 4-inch back inlets were provided serving the utility wastes located within the plant room with two PVC waste connections to a direct cast iron rest bend and a 2-inch PVC rainwater downpipe serving the flat roof above the rear lobby.

It should be noted that this flat roof also received some waste discharge; clearly unacceptable and a 3-inch downpipe discharge from a further smaller section of roof area. It is our opinion that the outlet, which is partially blocked at this time does surcharge and

the roof itself covered with roll mopped lead was heavily soiled and showing signs of water backing up within the channel; requires cleansing.

The 4-inch cast iron soil and ventilation stack to branch line (4) rose externally. This is provided with connections at ground, first and second floor level; generally, the pipework appears to be reasonably well supported and there was noted to be an air admittance valve for a possible anti-siphon vent at ground floor level. The vent exit terminated at a high point, although not a meter above the highest window opening; normally required by Building Regulations.

The stack itself was seen to be in satisfactory condition.

At the time of inspection, we were unable to identify the point of connection to the system from the rainwater downpipe dropping within the plant room. Access to guttering at third floor level was not available due to security shut windows. However, logically the pipework would simply discharge to the back inlet within the porch. This should be verified.

Condition of Manhole (1)

Channel:
4-inch stoneware. In good order.

Benching:
Rendered. There is evidence of past blockage within the chamber. This has risen to a height where it would have affected operation of the basement toilet. We would stress that the lowest point of discharge from the system, if a blockage occurs before manhole (2) would be the rear porch gully.

Chamber Walls:
The chamber walls are rendered. Seemed to be secure.

Frame & Cover:
Modern medium duty galvanised steel frame. Single sealed with a neoprene seal. It has six securing bolts. For a single seal unit, the frame requires stringent cleansing and should be provided with grease to prevent any air leakage.

Invert Depth:
0.71m.

MANHOLE (2) WITH INLETS FROM:

4-inch branch line (1) serving the kitchen rainwater back inlet gully.

4-inch branch from manhole (1).

4-inch branch line (2) apparent disused.

4-inch branch line (3) entering at high level serving adjacent surface water gully.

CCTV Observations

Direction: Pipe Size & Type:	Manhole (2) downstream, manhole (3) 4-inch cast iron
0.00m	Start of Survey. Internal surfaces of pipework heavily corroded. Effectively reducing diameter by almost 5% and causing severe restriction to flow characteristics.
7.50m	Water being retained within pipework.
7.80m	What appeared to be hardened scale deposits possibly solidified as a result of surge within the system and blocked interceptor trap. In the background surge pipework occupies 100% of the drain; verified to be manhole (3).
	The camera is retracted.
	Survey terminated.
Summary:	The cast iron pipework was heavily corroded and requires specialist cleansing. The surge has undoubtedly occurred due to the blocked interceptor trap of manhole (3) which also requires cleansing to enable the survey to be completed.

Direction: Pipe Size & Type:	Manhole (2) upstream, branch line (1) 4-inch salt glazed
0.00m	Start of Survey. Entering the pipework, it passes through an easy 45-degree angle bend.
0.59m	Hairline fracture noted a minor displaced joint.
1.18m	Moderate displaced joint. Hairline fracture noted to pipework. Camera passes through bend into back inlet gully.
	Survey terminated.
Summary:	The hairline fractures were not displaced and do not give major cause for concern.

General Observations

A high-level inlet from the adjacent surface water gully was clearly a more recent installation. This has been broken through the chamber walls and they have not been adequately repaired. The high-level inlet received very little surface water flow from the right-hand side of the lightwell. It drops through two 90-degree bends to channel level. This could not be camera as a result. However, the length was extremely small.

The 4-inch apparently disused branch may originally have served a gully within the lightwell that failed. The PVC was a replacement.

The repair concrete to the lightwell will require some attention. Leakage can occur through cracks within this concrete repair into the soil structure.

The back inlet PVC gully serving the kitchen and rainwater waste as well as surface water discharge. The back inlet was restricted due to severe soil build-up within the gully trap which needs to be removed.

A small stub stack with rodding access point is provided externally. This continued in PVC up to the height of the staircase to ground floor level. The 3-inch PVC received two 45mm wastes from kitchen fittings.

From the PVC stack at ground level lead pipework continuing up the front of the property received discharge from this and the adjoining premises roof. This effectively results in a shared discharge arrangement.

The gully itself was seen to be satisfactory.

Condition of Manhole (2)

Channel:
4-inch white glazed stoneware, although a longitude fracture is noted. This is secure.

Benching:
Rendered. In good order.

Chamber Walls:
These are of brick construction. The rendering is seen to be satisfactory although where the high-level PVC inlet has been installed it has simply been punched through and not repaired.

Frame & Cover:
Medium duty cast iron deteriorating through severe rust attack. The unit is secure, sound and safe. However, the cover is poorly seated to the associated frame.

Invert Depth:
1.08m.

MANHOLE (3) WITH INLETS FROM:

4-inch branch from manhole (2).

4-inch branch high level inlet serving 2 no. rainwater gullies. The external shed and garage.

CCTV Observations

Direction:	View of Manhole (3)
0.00m	Due to the restriction of access to manhole (3) and the blockage within the interceptor trap the camera is lowered into the chamber, being reset at 0.00 at ground level. Immediately entering the chamber what is seen to be 4-inch cast iron pipework serving the two rainwater gullies is teed across the access neck of the chamber and dropping within an internal tumbling section replacing the original low-level connection. Severe root intrusion is noted to the brickwork.
1.65m	Root intrusion appears to have lessened as descends.
2.36m	Step irons seen to be severely corroded and no longer suitable to withstand any significant weight.
3.20m	Camera reaches benching. The camera is swung to the side in an attempt to see the underside of the pipework. The interceptor trap noted and this is completely blocked. The rodding access stopper has been removed enabling waste to escape into the main sewer connection. At this point the benching is noted to be severely eroded where connecting to the channel section; possibly fallen render to the channel has blocked the channel and interceptor pipework.
	Survey terminated.
Summary:	Chamber requires accessibility with the replacement of the step irons.

Observations

At the time of inspection, we are unable to descend safely into the chamber. The step irons provided had deteriorated through severe rust attack and could not be proven to be safe. Severe root intrusion to the chamber and a depth in excess of 3.2m requires 'Confined Space' entry and access and escape method.

The interceptor trap, however, was identified as being blocked and clearly blocked for a considerable period of time, although attempts were made to push a blockage through with drainage rods this was futile due to the depth of the chamber. We were also unable

to inspect incoming pipework from manhole (2) due to the waste being retained above the inlet of the pipework.

High level inlets from each of the rainwater gully discharged into cast iron pipe. This then drops and enters at channel level over the original inlet. The cast iron pipework was provided with a verge plate at high level. This is to gain access into each section of the cast iron for cleansing purposes. This was severely rusted and is unlikely to be easily removed.

The two rainwater gullies were completely blocked at the time of inspection and have not been maintained for some time. The guttering systems were also partially blocked and downpipes poorly secured and fitted.

Condition of Manhole (3)

Channel:
Not visible. Appears to be 4-inch.

Interceptor Trap:
Not visible. the interceptor trap is blocked. The rodding access stopper was noted to be missing subsequently the only method of discharge for waste is through the rodding access into the outgoing pipework to the main sewer and this has been continuing for a considerable period of time resulting in compacted hardened waste within the trap itself.

Benching:
Rendered. Minor deterioration noted.

Chamber Walls:
These are of brick construction. Surface roof intrusion was noted virtually its full height. This is causing some structural damage. Steel rodded step irons are provided across the corner of the chamber. These were deteriorated through severe rust attack and could not be verified as being safe to aid descent. The introduction of the high-level cast-iron pipework also reduced accessibility to less than 450mm.

Frame & Cover:
Medium duty galvanised steel with concrete infill. In good order.

Invert Depth:
3.40m.

OPINIONS AND RECOMMENDATIONS

The cast iron pipework within the premises requires specialist cleansing. Cast iron structurally is highly stable and very rarely leaks or gives any concern other than the internal corrosion to the pipework which can cause resistance to flow.

The Aco channel arrangement and floor gully leaves something to be desired within the rear porch lobby. Any flood within the system or blockage will back up to this point and flood out. Although, marginally below the main basement flooring it could soon surge the

area. We would recommend; therefore, a high-level alarm be provided within manhole (1) and or (2) in order to give early warning to any blockages which could then be addressed.

The disused inlet to manhole (2) should be sealed to prevent the nesting of vermin.

The pipework from manhole (2) to manhole (3) requires specialist cleansing, however, initially the interceptor trap to Manhole (3) must be cleared and reinspected. The outgoing pipework from the interceptor trap is a relatively short distance before reaching the boundary and subsequently immediately beyond the boundary would be the responsibility of the Water Authority. As the pipework is a considerable depth the tree, which has been causing root intrusion within the chamber at higher levels may not have caused any damage to the pipework but this needs to be investigated.

The root intrusion within manhole 3 needs to be removed. Steps should be taken to prevent to attempt its reoccurrence and inspect annually, any regrowth.

The step irons provided to aid descent are now incorrectly positioned and may not be considered safe. Entering the chamber even to carry out initial cleansing will require 'Confined Space' and accessing equipment. It may prove necessary to remove the Cast Iron teed tumbling section from within the chamber to enable access. This being the case the pipework could be re-constructed in a manner which allows easy removal in the future.

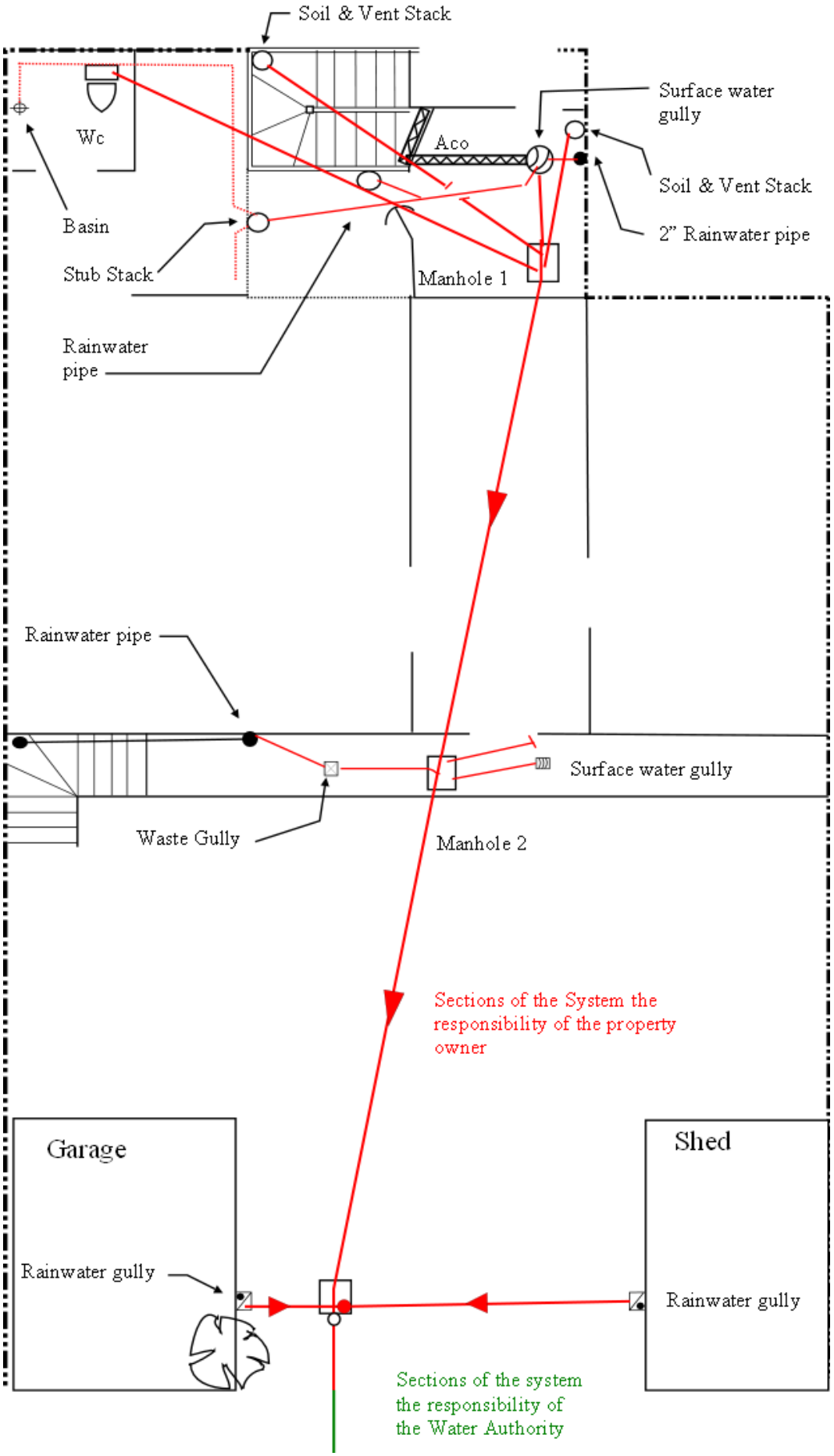
The step iron to manhole 3 should be replaced, the existing are in a severe depleted state.

Connection of the rainwater downpipe within the plant room to the back inlet gully and the lobby should also be proved.

Budget Costs

To carry out general cleansing and repairs / maintenance maybe in the region of:

- **£4,500.00 (Four Thousand Five Hundred Pounds).**


Soil & Vent Stack
Surface water gully
Wc
Aco
Soil & Vent Stack
Basin
2" Rainwater pipe
Stub Stack
Manhole 1
Rainwater pipe
Rainwater pipe
Surface water gully
Waste Gully
Manhole 2
Sections of the System the responsibility of the property owner
Garage
Shed
Rainwater gully
Rainwater gully
Sections of the system the responsibility of the Water Authority

MECHANICAL & ELECTRICAL APPRAISAL

PLUMBING INSTALLATION

Water Meter

The water meter is located externally to the property via pedestrian access gate. This is a modern meter housing and contains an isolation valve. Although we were unable to ascertain the size of the incoming pipework through the valve set.

Internally to the pedestrian gate the original stop valve position was noted. This is completely filled with soil and we suggest obsolete. It is likely that new pipework would have reached this point at a minimum.

Access to the pipework internally is not readily available. There were noted to be two crosses over points to a front lightwell. One appears to be the electrical underground main within metal conduit; the other boxing containing some lighting and we assume the rising main pipework. The gas service is to one side of this pipework.

The rising main pipework enters the cupboard containing the electrical sub-main distribution units in 22mm copper passing through a brass isolation valve which was seized and could not be operated. The 22mm incoming pipework has also been squashed where it passes from the duct and drops vertically into the cupboard space.

Immediately above this was noted to be the old electricity supply which has been cut off and we assume disconnected elsewhere and also the gas service, later described.

Rising main pipework rose in 22mm into the cupboard through a second isolation valve which was operational. Minor leakage noted when operated.

22mm pipework then rose to a tee with a 15mm copper supply passing through the cupboard into horizontal ductwork which provided a ring around the lobby. The pipework re-entered the main electrical cupboard to the far side of the lobby before continuing through a dropping to serve the kitchen hardwater facilities.

The main 22mm service continued to high level and passed within ductwork. The length of the basement to the rear store. Here the pipework dropped from the ductwork and continued to reduce to 15mm and pass through the water softener. This is a waterside unit and it was still noted to be in use at this time. The softened water supply then continued to serve an adjacent tap which failed to operate and seized internally before rising in 15mm and enlarging to 22mm to continue to above. Reduction of pipe size will affect pressure and available flow rate.

The pipework continued to serve softened water outlets throughout the property including the cold-water storage tank.

Cold Water Storage Tank

The cold-water storage tanks are located on the rooftop within a purpose constructed tank housing. Access to the tanks were extremely limited. A single removable panel gave access to one of the cold-water tanks and the feed and feed and expansion tank.

Both these have original galvanised covers and the tanks themselves have been replaced with polypropylene, however, the galvanised lids were retained and these have deteriorated through severe rust attack. The tanks do not comply to WRAS regulations and they are not sealed, fitted with tight lids, insulation was poor and loose fibreglass and pieces of polystyrene long since damaged. Access was not available to all tanks and we, therefore, not comment on the other tanks within this area or the possible presence of older pattern pipework.

The cold water down services continue to serve cold water outlets to sanitary ware and the hot water cylinder.

Hot Water Service

The hot water service comprised 2 no. 140 factory foam insulated cylinders. These were labelled originally has grade 3. The no. 3 has been crossed off and grade no. 1 installed. This would be necessary as the pressure rating of 10m has been exceeded. There was no other proof other then the unit was simply marked that it is a grade 1 unit.

The two cylinders appear to be circa 1990 although have not been dated.

The cylinder is a copper indirect unit open vented expansion pipework continuing insulated within the boiler house to rise in a vertical duct. Although access was available to this vertical duct within the top floor bathroom, we were requested not to remove the panelling below the window which would give good inspection of all such pipework. Similarly in the basement we would unable to remove the asbestolux panelling for such inspection.

Expansion for the hot water service pipe in both cases was 28mm copper assumed to link within concealed ductwork.

The cylinders incorporated fifth connections for a secondary return, however, a secondary pump was not identified. Again, its s likely to be present within the ducting and requires further investigation.

SANITARY WARE

Generally, through the property the sanitary ware was dated. Whilst some of it could be considered and construed as serviceable, particularly the kitchen area, long term replacement of all sanitary ware needs to be considered.

Large quantities of the taps, predominantly Barbara Wilson, are faulty and failed to either activate or have very slow rates as a result of corrosion internal resistance. The gilding to a lot of the taps was also noted to be worn away, although some would appear to have been subject to refurbishment in the past, this is not throughout. There are concerns over simple replacement due to the listing provided to the building.

Second Floor Rear Bathroom the shower leaked severely.

OPINIONS AND RECOMMENDATIONS

The distribution pipework does appear to be copper, access was not available to pipework within the Tank housing and we were requested not to remove the access panelling to the main rising ductwork.

The cold-water storage tank arrangement is not satisfactory, in our opinion. It leaves a lot to be desired with regards to flow rates particularly if new sanitary appliances are considered. In view of the quality of the premises it would be our opinion, that the property should be considered to be re-plumbed.

Pipework should be more adequately sized to enable satisfactory flow rates throughout the property even during multiply use of outlets occurs.

The cold-water storage tanks to the roof are dated partly refurbished units that have clearly lacked maintenance in the past and are poorly sealed and insulated and not in compliance with WRAS regulations.

The cold-water storage tanks to the rooftop are not suitable. The tank housing could be re-used. The tanks themselves should be completely replaced to comply with current WRAS regulations.

The Hot water cylinders are dated and have a limited life expectancy in the region of 5-years. At the time of necessary replacement, the property could be changed over to a Mains pressure system with booster pumps.

A decision is required on a Mains pressured installed being installed from a water booster pump set which would give a variable control for multiple use outlet at any one time. giving the height of the building and the reduction in pressure as it rises up the building, we would suggest the boosted water pump system be considered long term.

The incoming main is assumed to be copper. The ductwork crossing the front lightwell should be accessed for further investigation.

Budget Costs

On the assumption concealed pipework is proven to be copper the cost to overhaul the existing may be in the region of: -

- £18,000.00 (Eighteen Thousand Pounds)

To consider changing the system to a Mains pressure system maybe in the region of: -

- £65,000.00 (Sixty-five Thousand pounds)

This figure excludes the replacement of the sanitaryware.

HEATING INSTALLATION

Gas Supply

Gas supply pipework enters the premises below ground. It crosses the lightwell externally to the service duct where it had been sleeved passing through the retaining wall. The sleeving has all but collapsed due to severe corrosion and deterioration. We are unable to establish whether this joint at this position is sleeving or the actual gas pipework, and therefore, further and more detailed investigation is needed.

Iron pipework, 1¼-inch, continues internally to the cupboard within the front porch. This then drops through an isolation valve to serve the meter. The gas meter then services 1¼-inch iron pipework rising to 28mm copper where two15mm spurs and a 22mm are provided and assumed to continue to serve kitchen and the gas fire supplies throughout the premises.

At the time of inspection possibly as the property having been empty all gas supplies which are provided to the open fire places were shut off.

The gas supply to the cooker was still in place. The gas cooker functional.

The main gas supply continued on to the boilers within the rear plantroom.

Boilers

The boiler is located within the basement plant room and comprised an Ideal Mexico Super 2, CF140 rated between 140,000 - 164.400 BTU (48.1 to 53.9.kW)

The boiler is a conventionally flued unit. Ventilation points have been provided in the external wall and these are numerous in number simply to achieve the required air intake. These vents, however, were heavily silted and partially blocked.

The age of the boiler by the manufacturers date was January 1993 clearly in excess of 28 years. These boilers industry standards are normally 25 years. Therefore, the boiler although we were informed had been recently serviced is beyond its industry life expectancy and its continuing life expectancy is greatly reduced.

The boiler casing indicated some onset of corrosion. Minor leakage noted out of the heat exchanger, although still functional.

All service records should be obtained.

The boiler served a main 35mm flow. This was provided with tees and dropped into a 22mm tee section serving two cylinders through 2-port motorised valves and these were controlled from cylinder thermostats in each case. Heating for the hot water was seen to be operating satisfactorily at the time of our inspection.

The main heating continued reducing to 28mm copper to rise to above. We were unable to identify a further 2-port motorised valve to the flow although one was noted to the return.

The room thermostat was located at first floor level on the front landing and suggest this is the only zone control for the property.

Distribution Pipework

Visible pipework is predominantly copper however some remnants of iron coupling are noted to have be retain particularly at radiator connection points. Leakage of a minor nature was noted in a number of areas such as at radiator connection and to the Boiler equipment.

Radiators

When activated circulation was provided throughout the property to mixture of cast-iron column radiators and replacement steel panelled unit at first floor and above, were fitted. Heat recovery to these radiators was reasonable suggesting that a circulation pump which exists behind the cylinder is adequately sized, which is likely to be but should be further verified.

Above ground floor level steel panel convector units are provided, again circa 1990 and again have surpassed their industry life expectancy.

Feed and Expansion Tank

The feed and expansion tank are located on the roof top. The tank has been replaced with a polypropylene unit; however, the original galvanised lid had been retained and was deteriorated through severe rust attack. The unit was partially insulated with polystyrene and loose fibreglass; access to supply feed and expansion pipework difficult. Internally there was no evidence to suggest that treatment has been provided within the installation which contains mixed metals due to the cast iron and steel panel radiators.

Open Fireplaces

First Floor Drawing room

First floor drawing room chimney flue exposed brick above fire throat.

The open fireplace flue was to an original parging lined (Rendered) brick chimney, the Parging was dislodged with no evidence to the lower sections. Upper and mid-sections are not visible. the exposed brickwork showed some erosion to mortar joints, a high level of creosote although the chimney has been swept of soot.

Under Part J of the Building Regulations this chimney should be tested. Any chimney pre-1965 to which parging has been removed is considered at risk of both leakage and potential fire hazard. Lining of the chimney within regulations is strongly recommended regardless of test results.

There is no evidence of fresh air ducted to the fireplace or airbricks provided in external walls.

Second Floor
Open flues to both the second-floor bedrooms were similar to the Drawing room flue construction describe above, the Parging has failed and the flues will require lining if to be re-used.

First floor bedroom

A flue liner is installed and appeared to be clayware, however the lower section only was visible and we would advise the flue is CCTV survey prior to re-use.

OPINIONS AND RECOMMENDATIONS

The incoming gas supply requires further investigation particularly where entering the light well at the front of the premises at basement level. Ideally if a new gas pipe is considered then the gas meter position should be located more appropriately within the lightwell and not internally to the property.

Gas supplies throughout the property should be subject to testing. New isolation facilities will be required if supplies are maintained to the various fireplaces.

The property does not meet current or even 1985 insulation requirements. The 'Building Listing' will prevent replacement of windows with double glazed units, although secondary may be suitable. We would suggest that 'heat loss calculations' are undertaken to establish whether the sizes of radiators provided indeed meet the requirement. It is unlikely that the boiler or the Radiators are of sufficient size to service a property of this size.

Ductwork should be opened in order to investigate all supply pipework. It is necessary to ensure that pipe sizes have been maintained before reducing in size to serve individual radiators.

Cast iron radiators do require a general refurbishment and overhaul, however, generally have a long-life expectancy. The 1990 refurbishment with steel panel radiators, however, with one or two noted to be pre-1990's, are all in the area of 30 years of age. The life expectancy from this point would be considered minimal.

Once ductwork has been opened, and pipe routes identified, we feel it would be prudent to consider redesigning the installation, providing separate heating zones to each of the floors in order to increase efficiency and prevent the excessive convection patterns which are likely to occur.

Budget Costings

To overhaul the existing **Short-term**, costs maybe in the order of: -

- **£4,000.00 (Four Thousand Pounds)**

To replace the heating installation and updated controllability maybe in the region of: -

- **£60,000.00 Sixty Thousand pounds)**

Open Fireplaces

The open fireplaces predominantly appear to be brick constructed originally parged internally. The exception being the dining room which had a clay liner to the upper sections. Part J requirements require all chimneys to be tested. It is our opinion where parging is deteriorated, which was noted in all cases, it will be necessary to line the chimneys. The chimneys will require a full CCTV survey, sweeping and extensive investigations prior to such lining or type of lining being considered.

At this stage we would suggest a budget figure per chimney flue in the region of:

- **£9,000.00 (Nine Thousand Pounds)** each, be considered.

Alteration of open fires to woodburning or Gas stoves normally make the application of liners a simpler task. In our opinion this may be a good way forward with regards to protection and usability long term.

There maybe local restriction on such appliances.

Approved Document Part J states that Flues Linings should be inspected.

ELECTRICAL INSTALLATION

The incoming underground supply passes across the front vault at high level within ductwork housing. This enters the basement rear lobby, left hand cupboard exiting the building, where the lead sheaved older pattern SWK continues to an older pattern cast iron service head rising to serve a two-tariff service meter arrangement.

The enclosed cabling system continues to a small distribution bar serving isolation facilities continuing to serve sub-main distribution units.

Sub-Main Distribution Units

All sub main distribution units were circa 1970's to the basement above the meter. A Wylex 6-way metal distribution unit is located immediately above the service meter which continues to serve the basement area. Wiring is clearly circa 1970's.

Isolation facilities at this point continued to serve two further Bakelite distribution units located to the right-hand basement cupboard, although unable to Cleary continue to serve the basement and ground floor areas.

The remaining distribution units are located at first floor mezzanine level within the service cupboard, being 2 no. Wylex 8-way distribution units circa 1970's.

Immediately below the Wylex unit there was noted to be a timer switch and adjacent isolator possibly intending to serve some form of secondary switching for hot water, immersions and this requires verification.

Earthing

Earthing was reliant on the incoming cable sheave connection. Earthing was identified to a number of the incoming services, i.e., water and gas. Supplementary bonding, however, was limited throughout the premises to exposed and extraneous and metal parts.

Distribution Systems

Within the area of the main intake there is a high level of cabling which is not contained, untidily installed and without suitable containment is prone of impact damage, snagging etc. There is also noted to be a high degree of disused cabling and data cabling throughout the premises where during any additional works redundant services have not been removed.

There is clear evidence of inadequate encapsulation of connections provided to the wiring installation in a number of areas and we suggest within concealed areas which were not visible and we are unable to gain access. Such connections would be prolific where various extensions have been made in the premises in the past.

Fixtures and Fittings

Fixtures and fittings are predominantly older pattern toggle units. A number of these are showing internal corrosion and showing wear to switching mechanisms, although generally still functional where additional modern white plastic has been installed these appear to be relatively random installed on a ‘as needed’ basis only and located in areas where access can easily be established without affecting the grading of the premises.

With the possible exception of some refurbished areas such as the kitchen wiring generally is untidy, dated and unsuitable.

The original rewireable fuses have had replacement MCB’s provided. These are not considered to be satisfactory for modern day end user protection. RCD RCBO’s and surge protection should be afforded to the installation.

All lights within the 2nd floor shower room are non-functional

OPINIONS AND RECOMMENDATIONS

It is our opinion that the existing installation, due to its age and limited outlet potential and poor positioning, should be considered for rewiring. All cabling systems require suitable containment or redundant cabling systems, fixtures and fittings should be removed.

Earth bonding should be updated as appropriate to new protection devices installed.

Budget Costs

The cost to rewire the property will be dependent upon position of fixtures and fittings, such as light fittings in particular due to the Grade 2 listing. However, costs could easily be in the region of:

- **£65,000.00 to £70,000.00 (Sixty-Five to Seventy Thousand Pounds)**

This figure allows for basic quality fittings which can vary considerably in cost

External Buildings

Wiring provided within the external buildings was limited, these areas should also be provided with upgrade of end user protection devices, earthing and separate earth buried rods for detached buildings.

The figures quoted in the above Report are for guidance purposes only and are exclusive of VAT. Firm competitive Quotations should be obtained before any works are carried out.

We have not inspected installations or parts of installation that were covered, unexposed or inaccessible and cannot therefore report that such Installations or any parts thereof were free from defect.

Following the introduction of the General Data Protection Regulation (GDPR) in May 2018, we are advising you that we currently hold your name, email address and other contact details on our computers. This data has either been given to us by yourself or obtained from your website or other public source and is used solely in connection with the project or service in connection with which the data was provided or obtained. It is not used for any marketing purposes or passed to third parties without your consent. If you should like us to delete this data, do please let us know.

Ref No: 6180/MAY21/RS

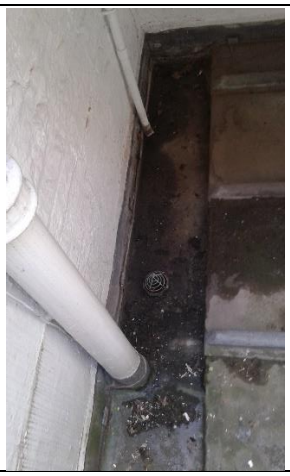
Prepared by:
Robert Slade
Shakespeare Pullen & Slade Ltd

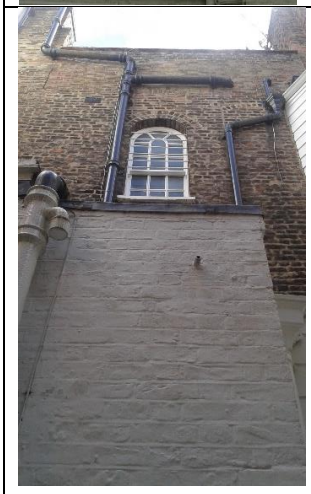
Photograph Schedule

The following photographs are representative of the present condition of the services, these have not been

Drainage Installation

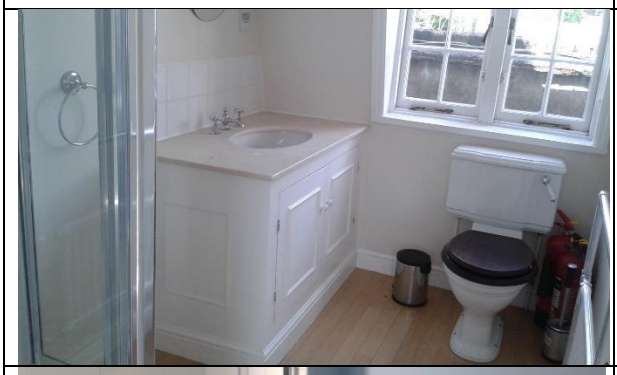
Rainwater and Soil down pipes to rear lightwell

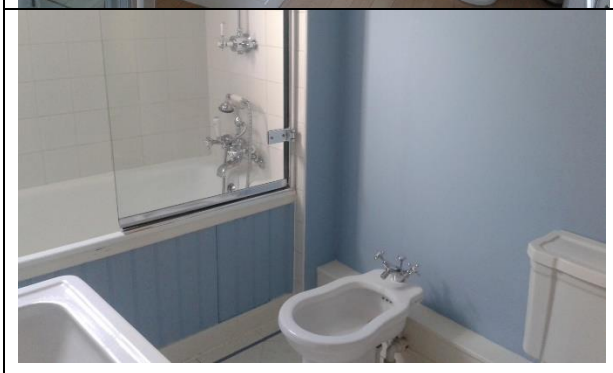



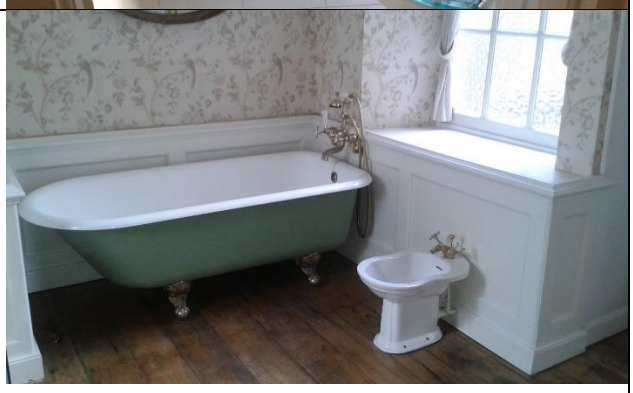



Manhole 3

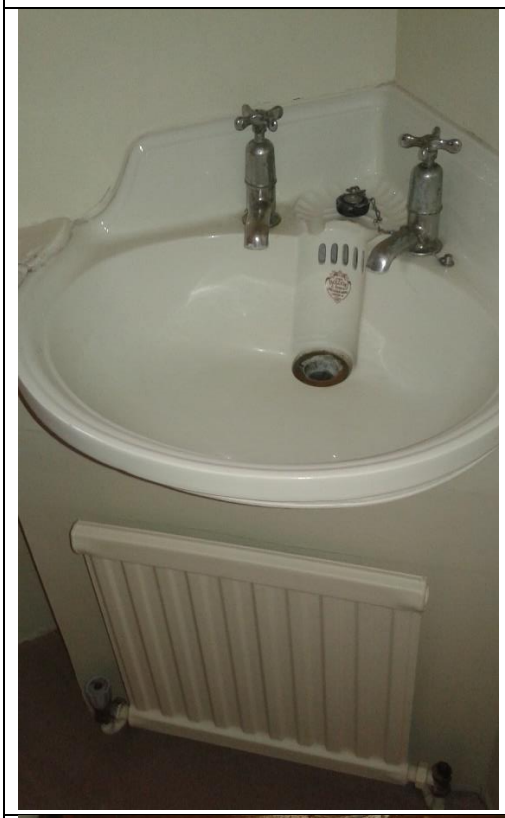

Plumbing Installation



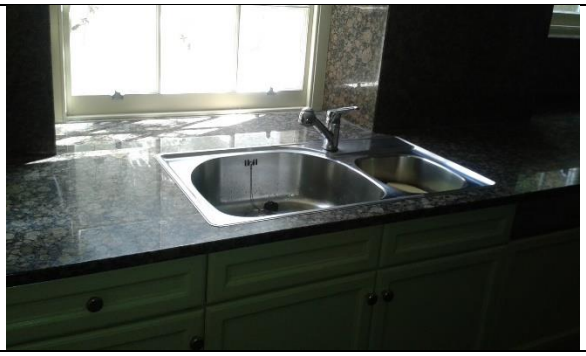




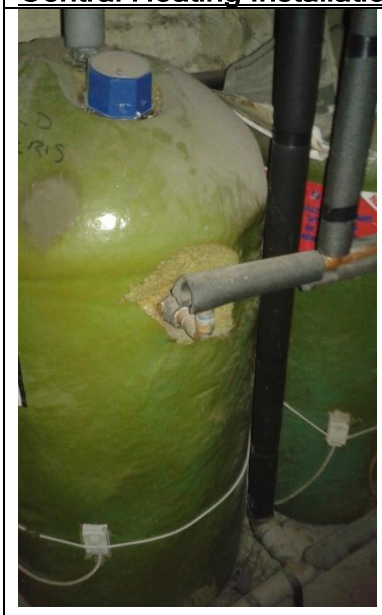
First Floor Cloakroom



Basement



Central Heating Installation









Open Fire Flues

Electrical Installation