

Ralph Taylor

From: Ralph Taylor
Sent: 30 June 2021 11:06
To: Ralph Taylor
Subject: FW: Piccadilly Warehouse Mindel House, Manchester - sprinkler system

Neil

A short update from my visit on Wednesday.

I was pleased to meet many of your colleagues and was given the full \$5 tour - other than the attics. Parts of the sprinkler system date certainly from before WWII, the sprinkler valve type could be as early as 1900 but is more probably from the 1930's as is some of the pipe. Most of the visible heads date from the 1970's - possibly having been changed when extensions were undertaken when the building changed use from warehousing to office..

I'm happy to agree with your general conclusions that there is no real merit in retaining the sprinkler pipework, valves and heads as they will not bring any particular aesthetic or heritage value to the building and, of course, are not a rare survivor as many (most?) late 19th century warehouse buildings in this area were sprinkler protected.

I can also agree in principle that retaining the pipework does pose some issues for the adaptive reconstruction implicit in the conversion of the existing building to residential use.

In particular:

1. AD-B-3(4) compliance will be impacted by the presence of sprinkler pipe transiting new fire barriers - all transits would need to be additionally fire stopped. The presence of the system may also result in the construction of voids and cavities with all that implies in compliance with AD-B-5.16, 5.24 and fire resistance to 6.7 as the building is over three storeys. I believe you will also have problems with compartmentation as specified in AD-B-7.1 to 7.7.

2. It is probable that given the age of the pipework there will be significant internal microbially induced corrosion (MIC). MIC is caused by bacterial microbes in combination with four other environmental conditions: metals (host location), nutrients, water, and oxygen (although some types of bacteria need only very small amounts of oxygen). In addition, some microbial reactions will only occur within certain temperature ranges. The bacteria that cause MIC are ubiquitous in the environment and piping materials, so when all of these environmental conditions are present, microbial growth will occur. Once the nutrients in the system are consumed, the microbes may become dormant.

3. The system upstream of the stop and alarm valves appears to be pressurised at 3.5 Bar and as such presents a potential hazards during the conversion of the building (insurers pay out more for water damage on Construction All Risks Insurance than they do for fire damage). The MIC within the pipework will be stable but as soon as the water is drained, the microbes will become active and corrosion will again commence.

4. The system is directly fed from a service (towns') main connection which will need to be isolated in any case. Great care should be taken undertaking this as there does not appear to be any back flow protection and the service man could be catastrophically impacted by the contaminated sprinkler water.

I hope this is helpful. If you would like me to expand on these thoughts in a formal report I would look for a fee based on 75% of my daily rate - this would be £650.00. I'd be pleased to send you a formal quote with my T's&C's

Can I add that as a practising fire professional I would urge the client to consider whether or not a BS9251 Residential sprinkler system should be installed throughout the property - this is now the norm in many parts of the UK in such developments and of course a requirement in England for flats over 11m

I also mentioned the importance of protecting the historic fabric from fire during the refurbishment process and would strongly recommend that the Joint Code be imposed on the main and all sub contractors. This may be imposed as a Warranty by the underwriters of the Construction All Risks policy.
<<https://www.thefpa.co.uk/shop/books/fire-prevention-on-construction-sites-9th-edition>>.

Kind regards

Stewart

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