As requested I have reviewed the Sharps Redmore 'Technical note 1' - Addendum to Acoustic Report dated 20Aug21 that was part of application DC 21 05244.

I have the following comments:

1 As points v and vi of my notes of 25Jul21 I consider that a plant noise causing an increase of 8dBA above the background noise level will create nuisance in this context and I consider 30dBA to be too high.

2 According to para 1.1 (acoustic) measurements were taken during a site inspection on the evening of 23Jul21 in the company of the EHO (but not any representative of the residents).
Any readings taken are fundamental to the acoustic solution yet they have not been disclosed.
I suggest that the following should be resolved:

1. Where were they taken ?
2. What were the results ?
3. At what speed was the main fan running – was it representative of a fully occupied hall ? – unlikely during early evening. Or was a commissioning engineer on hand to set the fan speed ?
4. At what speed were the condenser fans and compressors running in the outdoor units ? - If there was no heating or cooling load then both will have been very slow and thus abnormally quiet
5. Were any other fans running that would normally be in operation simultaneously ? – E.g. kitchen extract, WC fans.

(I suppose I was expecting a proper new noise survey to allay the fears of the residents)

3 Para 3.2 claims that only 2 of the 4 large heat pump outdoor units will operate simultaneously and then only at partial load. What is the basis of this assumption please - is it reasonable ?
It also suggests that having measured the sound pressure level (LpA) at 1 metre from the units on site it equates to approximately 26-27 dBA at the boundary.
Surely it would have made much more sense to take the actual measurements at the boundary rather than make a theoretical estimate ?
Was that not the whole point of agreeing a proper noise survey 'in operation' ?

4 Para 3.3 mentions a 'hit and miss' screen to be installed around the ASHPs for visual purposes . I suggest that the opportunity should be taken to try to use this for acoustic screening as well.
Perhaps an imperforate façade to the west.

5 Paras 3.6 to 3.9 appear to recommend sound attenuator insertion losses based upon the measurements taken on site.
However, as point 2 above, these will be inadequate if the measurements were made at too low a fan speed.
But importantly, I understand the ventilation system has now been installed and commissioned and I infer from the report that it did not include any sound attenuators.
Is it now physically possible to insert two heavy bulky sound attenuators some 1800 to 2400 long within the plant space allocated ?
We have seen no drawings demonstrating the original installation or one containing the necessary sound attenuators.
Furthermore, the addition of sound attenuators is likely to add a further 100Pa. or more to the extract and supply system resistances so increasing energy consumption – see my comments on the need to update the SBEM/BRUKL.

6 I note that the noise mitigation proposal for the AHU casing break out now comprises a full enclosure to the air handling plant rather than a screen.
However, no details or drawings for this screen are provided other than a basic plan.
My concern is that considering the necessary ductwork modifications and access space requirements it will constitute a significant unsightly extension (or carbuncle !) to the rear of the building which in itself needs to be approved by the planners.
Note, that if not itself constructed of attenuated louvres it will require extensive louvres for air inlet and discharge.

The air velocities through these louvres will require to be kept low in order to avoid noise regeneration and thus they will require to be quite large.
The design of the enclosure must take these into account.

7 Para 3.15 predicts an acceptable noise level from the ASHP unit by the sports hall wall.
In my view this is unsatisfactory for the following reasons.

a) The level should have been measured not just estimated/predicted
b) As SR will well know, if this unit creates 28dB at the boundary as predicted and so too do the ASHPs then the combined SPL will be 31dB and this is not acceptable. It will be further compounded by the AHU noise that is not mentioned in the combined context so that from SR's own figures it is reasonable to predict 32dB or more.
c) It goes on to say that the ASHP can somehow be screened by the new enclosure but it is by no means clear what is intended and it does not constitute a proposal . I suspect it will be difficult to combine this with adequate louvres for the air discharge at the side of the building.
d) Would it not be better to relocate this ASHP – perhaps group it with the other 4 if pipe run lengths permit

To conclude, this addendum report outlines a significant change to the original proposal which demonstrates to me that the Planners were correct in not granting discharge of condition 12 previously.
However, in my view the Developer has failed to provide sufficient detail for the new scheme to enable approval.
In my view, it requires the Architect to sit down with the Acoustics Consultant and the various other specialists and to submit a robust design that deals with all the above points
And I would be very interested to know what the planners think of the inevitable carbuncle.

Regards

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