Dear Kerry-Ann

Subject: Southborough Hub, Royal Tunbridge Wells – Options Appraisal (Acoustics)

Further to our proposal dated 22nd June 2015 and our recent emails and telephone conversations, please find detailed below our review of the two options with respect to acoustics and noise.

1. Project Outline
   It is understood Southborough Town Council, Tunbridge Wells Borough Council and Kent County Council are working together to provide a community facility and homes on the site of the Royal Victoria Hall, Southborough Town Council’s offices, and Ridgewaye School. The community facility is likely to include a theatre (with the existing theatre being retained under Option 1), library, community space, a café, offices, a medical centre and football pavilion.

2. Brief
   Liaise with relevant project team members, review the proposals, provide advice where, if at all, improvements could be made with respect to acoustics and noise in terms of the experience of both the future occupants and the neighbouring receptors, and highlight any differences between the two options, identifying which, if either, would be the preferred choice with respect to acoustics and noise.

3. Information Reviewed
   In fulfilling the above Brief we have reviewed the following document and drawings:
   - Southborough Hub Options study Final Report, January 2014
   - 140552-PE-01-ZZ-DR-A-0200 - OPT1_Location Plan (Rev P07)
   - 140552-PE-01-ZZ-DR-A-0201 - OPT1_Site Plan (Rev P08)
   - 140552-PE-01-ZZ-DR-A-0202 - OPT1_Site Context 1-200 (Rev P07)
   - 140552-PE-01-GF-DR-A-1207 - OPT1_Masterplan Ground Floor
   - 140552-PE-02-XX-DR-A-0201 - OPT2_Site Plan (Rev P03)
   - 140552-PE-02-GF-DR-A-0202 - OPT2_Masterplan Ground Floor 1-500 (Rev P01)

   Additionally, traffic data in the form of morning and afternoon peak hour flows for The Ridgewaye and Yew Tree Road were provided in an email.

4. General Advice
   Whilst we have yet to visit site, it is clear that the key source of noise affecting the site is the road traffic on London Road (the A26). Of the various elements of the proposed development, the dwellings are considered to be the most sensitive to noise; and seeing as these are proposed well away from London Road under both options, there is considered to be no improvements that could be made in this regard.
The medical centre, café and library will also be sensitive to noise, and so, to some extent, consideration should be given to where these spaces are located in relation to London Road. It may mean the difference between the choice of passive and forced ventilated. However, these spaces are unlikely to be any more sensitive to noise than the various existing uses fronting London Road, whereby it’s likely that suitable internal noise conditions can readily be achieved regardless of proximity to London Road. Notwithstanding this, the greater the separation from London Road, either via distance or the positioning of less noise-sensitive spaces, the better acoustically. The difference between the two options in this regard is identified below.

The theatre is also sensitive to noise; however, this will need to be designed to contain the ‘break-out’ of noise produced within, whereby the ‘break-in’ of noise is not such an issue.

Other than the consideration of noise from London Road, any other noise issues will be related to noise produced by the operation of the proposed development. This could be in the form of noise from additional vehicle movements on the local roads (particularly The Ridgewaye), noise from additional building service plant, and, as mentioned above, the use of the theatre (in terms of entertainment noise break-out).

It terms of additional road traffic, it would be advisable for this to be kept away from less-trafficked roads. However, it is understood that the sole use of an access off London Road has been explored and dismissed by the Council’s transport department, whereby the use of The Ridgewaye would appear to be the best alternative. The likely noise effects associated with this are considered below.

In terms of building service plant noise, it is considered unlikely that the proposed development will represent anything unusual or different from that present to some extent already in the vicinity of the site and/or existing noise-sensitive uses. It is considered that, whilst it is preferable for such sources to be kept away from sensitive uses, there is no reason why noise from such sources can’t be sufficiently controlled regardless of their location. This will need to be given due consideration at the detailed design stage in relation to the Local Authority’s requirements and the baseline noise conditions outside the nearest dwellings.

In terms of the use of the theatre, and as mentioned above, there will be a need to ensure that noise generated within does not break-out to such an extent that neighbouring dwellings are affected. As with all sources, it is preferable for the distance to receptors to be maximised; however, with such a constrained site, and with Option 2 including the retention of the existing theatre in any case, there is little (or no) scope in this regard. Notwithstanding this, it is anticipated that designing the (new or refurbished) theatre to control noise in this regard will not present an issue, and that its location should not be a significant factor. (Although, presumably, addressing the noise control requirements in a new theatre may be less challenging than working with the existing building.)

The use of the proposed pavilion and sports pitches are not considered to be an issue due to the extant use of such facilities and/or the lack of potential for significant levels of noise.

5. Options Appraisal

The two options are generally very similar. The main difference is that Option 1 includes the construction of a new theatre, whilst Option 2 is based on the retention of the existing theatre. The former allows for the incorporation of all proposed community facilities into one building, which takes up less space, and, in turn, allows for the construction of additional residential units. The next key difference, therefore, is that Option 1 includes some 55 residential units, whilst Option 2 includes some 40 units.

The additional residential units under Option 1 mean two things: additional vehicle movements on the local roads; and additional receptors in proximity to the (proposed) theatre.

This latter point can be ignored, however (in terms of this Options Appraisal), since the distance between the proposed dwellings and proposed theatre under Option 1 is essentially the same as that between the existing dwellings and (existing) theatre under Option 2. In this regard, therefore, there is no difference between the two options.
In terms of vehicle movements, this can also be ignored, since the additional dwellings would be accessed via London Road, and so their absence under Option 2 doesn’t affect the flows predicted for The Ridgewaye, which are the same for both options. And whilst there is potentially a benefit to the nearest (existing) dwellings to the London Road access (in the absence of the dwellings under Option 2 and the associated vehicle movements), due to the likely dominance of the noise from London Road in this location, and the limited additional movements involved (based on 15 units), there is unlikely to be any benefit in practice. Again, in this regard, there is considered to be no material difference between the two options.

The remaining, potentially key, difference is considered to be by the location of the medical centre. Under Option 2, this is set a little further back from London Road than under Option 1. The difference is small, whereby the difference acoustically is also likely to be small; however, it is a differentiator nonetheless (in the absence of any others, significant or otherwise), and it could well have design and cost implications, albeit limited.

This appraisal is summarised in the following table.

<table>
<thead>
<tr>
<th>Acoustic/Noise Consideration</th>
<th>Appraisal Notes</th>
<th>Preferred Option</th>
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<tbody>
<tr>
<td>Road traffic noise affecting proposed dwellings</td>
<td>Dwellings set well away from London Road under both options.</td>
<td>N/A</td>
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<tr>
<td>Future fixed plant noise affecting existing and/or future dwellings</td>
<td>Likely to be sufficiently controllable, whilst separation distances are the same under both schemes.</td>
<td>N/A</td>
</tr>
<tr>
<td>Future entertainment noise from the theatre</td>
<td>Likely to be sufficiently controllable, whilst separation distances are the same under both schemes. However, dealing with this is likely to be easier in terms of a new theatre as opposed to a refurbished theatre.</td>
<td>Slight preference for Option 1</td>
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<tr>
<td>Addition road traffic on local roads</td>
<td>Whilst Option 2 comprises fewer residential units, this does not affect the degree of additional traffic on The Ridgewaye, which is the same for both options. Under Option 2, the fewer residential units means no vehicle movements in proximity to the existing dwellings to the north of the site, but which due to the likely dominance of noise from London Road in that location and the relatively few movements involved, this is unlikely to be any benefit in practice.</td>
<td>N/A</td>
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<tr>
<td>Location of the medical centre to London Road</td>
<td>The medical centre is proposed slightly further from London Road under Option 2 than under Option 1. This would have a slight effect on the level of sound insulation required by the envelope of this element of the development.</td>
<td>Slight preference for Option 2</td>
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Overall Preference: None

6. Change in Road Traffic Noise along The Ridgewaye

It is not a key element to this appraisal, but it has been considered prudent to consider the potential effect of the additional traffic movements along The Ridgewaye on the existing dwellings in the vicinity. This has been done using the peak hour traffic data provided and assuming all things remain equal (such as vehicle speeds and composition, which are unlikely to change).

Based on the baseline am/pm flows of 110/108 and the development flows (both options) of 13/15, any change in noise level at the nearest dwellings would be less than 1 dB. This is an insignificant amount. Although, it is presumed that the baseline flows are based on the conditions at the southern end of The Ridgewaye (at the junction with Yew Tree Road). And on this basis, the flow at the site...
end of The Ridgewaye – in the vicinity of Bondfield Close – will be much reduced (potentially down to zero), whereby there is greater potential for a noticeable change in noise level. This will need further consideration, therefore; although, at which point, the ambient conditions (i.e. including noise from sources further afield, such as the traffic on Yew Tree Road and London Road) would be taken into account, and it might be that any noise from the additional movements on The Ridgewaye is not high enough to increase the noise conditions overall.

7. Summary

Beyond any requirements to be addressed at the detailed design stage, such as the control of noise from building services plant, there are considered to be no significant advantages to be gained from amending either scheme with respect to acoustics or noise.

The location of the proposed dwellings is essentially the same for both options, being well away from London Road. There may be some advantage in maximising the distance of the community facilities from London Road – with the medical centre being slightly further from London Road under Option 2 – but on such a constrained site, any such changes would be small, whereby any acoustic benefits are also likely to limited. In any case, it is considered that the sensitivity of the proposed development is no greater than existing uses in similar proximity to London Road, whereby it is anticipated that designing out noise in this regard is unlikely to be particularly onerous.

As a result of the similarity between the two options – the main differences being that the existing theatre is to be retained under Option 2 and, as a result, this option includes fewer residential units – there is very little to differentiate them in terms of acoustics or noise. In Option 1’s favour, the new-build status of the theatre is presumed to more readily facilitate the control of noise break-out. In Option 2’s favour, the medical centre is proposed a little further from London Road. On balance, however, there is not enough to select one option over the other in terms of acoustics or noise.

We trust the above meets with your requirements at this stage. Please do contact us if you have any queries.

Yours sincerely,

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