
Building Services Design Dilemma

With the ever increasing complexity of building services in smaller-scale, low-energy projects, RIBA members in Kent and Sussex have joined forces to investigate how members work with M&E consultants and are asking for input from other regions.

RIBA practice department will collect responses and forward them to members undertaking the research, which is aimed particularly at sole practitioners and those working in small practices. A central question is to what extent M&E consultants are meeting needs for advice on small projects. The researchers are also interested in collecting details of consultants able to provide advice on smaller projects. Send your comments to Practice.

From RIBA Practice Bulletin 527

From an issue raised by southeast region architects, the above prompt was posted in the RIBA Practice Bulletin. Twenty-three responses were received, a few of which were plugs for company services, but the vast majority concurred that there was a growing problem in the industry which needed tackling. The geographical spread of responses was well distributed with contributors from the west country, the midlands, Wales, the north, south, southeast and London. The experiences alluded to were by no means limited to private residential projects. The following is a summary of points gleaned from the research:

- 1 Small works projects are becoming technically more demanding as the industry responds to the energy efficiency challenges set by statutory authorities and environmentally-aware clients including heating and ventilation, small power and water installations and lighting.
- 2 Clients are unwilling to pay extra fees for building services design and yet the cost is often sewn into a tender if a contractor design contract is used for the detail specification of this element.
- 3 With the demands of CSH, SAP and BREEAM, the need for building services expertise is required throughout the project.
- 4 Many energy consultants who provide early stage performance ratings do not get involved in specification or site inspection work.
- 5 Many architects have traditionally got by with an outline specification and a 'contractor design' element in the contract for the detailed resolution of the building services, but this is felt to be becoming increasingly unwieldy as the design is often taken on by M&E installers who could be poorly prepared to devise a well integrated and fit for purpose installation that meets the tough new demands for energy efficiency.
- 6 Where an M&E sub-contractor carries out detail building services design, the solutions are often proposed at an advanced stage of the build where the client is under pressure to accept with little supporting explanation or options and sometimes when the lead times on equipment will create difficulties with the critical path of the programme. Some redesign or abortive works of other building elements may also be required.
- 7 Where M&E consultants have become involved with smaller projects there is a tendency that they will use specifications familiar to them from larger projects and as such the system designs are over complex to run and maintain, far exceeding budget and possibly even poorly devised and integrated because of pressures of fee allocation.

- 8 Some architects rely on suppliers to design building services installations, which leads to perhaps more design responsibility taken on than the architect's professional indemnity insurance allows for.
- 9 Architects are often out of their depth when inspecting the building services works and are perhaps not best placed to serve the client's interests when the contractor is skirting a design or installation fault.
- 10 There is a gap in the market to exploit for building services engineers or the more technically adept of architects.

In conclusion, it would appear the status quo for providing the client with a robust and effective design service for integrating energy efficient building services is on the whole unsatisfactory, particularly on small works. Building services consultants are resistant to become involved on smaller projects as the scope for fee cover can be insufficient and if they do get involved, inadequate resources often lead to a poorly integrated solution or one which is borrowed from a much larger project and unsuitable for small works. Contractor design contracts where the successful tenderer's sub-contractor carries out the detail design is very prone to cause problems of integration and programming on site as the design is done while the contract is live and often carried out by installers who are not best placed to keep abreast of the fast changing technology which is being pushed by the low carbon agenda.

We would propose that the matter is raised with CIBSE and other professional and trade bodies with a view to finding an appropriate level of design support for building services design on small works projects and which can be offered for a realistic and responsible level of fee.

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