

HAMPSHIRE COUNTY COUNCIL

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| Committee/ Panel: | Buildings, Land and Procurement Panel |
| Date of Decision: | 5 July 2011 |
| Decision Title: | Volumetric and Modular Construction – A Strategic Approach in Hampshire |
| Decision Reference: | 2964 |
| Report From: | Director of Culture, Communities and Business Services and Director of Children’s Services |

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1. Executive Summary

- 1.1 The County Council employs a range of construction types on all of its sites. Given that there are approximately 7,000 buildings on 1,000 sites, there are an abundance of existing building types covering a wide range of construction methods. The purpose of this report is to inform Members on the subject of volumetric (e.g. temporary classrooms) and modular buildings. Both construction techniques use elements of off-site construction to create pre-fabricated sections of buildings, which are then delivered to site for assembly.
- 1.2 The difference between volumetric and modular buildings is:
- (a) Volumetric buildings (e.g. temporary classrooms) – Have large elements of prefabrication. These are delivered to site in sections that are defined by the maximum that can be transported by road and then assembled speedily on site with the minimum of supporting sub-structure. They are relocatable from one site to another, although multiple transfers eventually impact on their longevity and sustainability for re-use.
 - (b) Modular construction - Defined as a range of off-site fabricated elements that are then transported to site and then assembled to form a permanent building. There are advantages to the client in quality control and speed of construction, but not necessarily in price. From local experience, this type of construction is suitable for multiple application and particularly where there are programme constraints. An example of where this method has been employed includes the Children’s Centre programme where more than 20

projects used this approach. Reduced cost can be achieved by buying across multiple units –in terms of both construction costs and professional fees. For a one-off project, traditional construction is still often the lowest cost.

- 1.3 “Traditional” construction can still contain major elements of prefabrication (e.g. cladding systems, structural solutions, servicing elements like bathrooms, etc.), but this is not included in the scope of this report.

2. The History of Volumetric Buildings in the Education Estate

- 2.1 “Temporary classrooms” have been deployed over many years on Hampshire school sites. There are two general reasons for this requirement:

(a) A building is required to house pupils for a short period (e.g. six to twelve months) to enable major refurbishment or replacement of a permanent building. In some circumstances, a temporary school is constructed in advance of a permanent structure because of the time it takes to design and procure a new school, and often because of funding constraints associated with the flow of developers’ contributions.

(b) A temporary classroom is required because of pupil number growth. In the past, volumetric buildings have been placed on school sites with no strategy for replacement and have then remained for many years. This happened a great deal in the ‘60s, ‘70s and early ‘80s. The County Council has done everything to avoid this happening in the last 20 years or so. In some circumstances the growth in pupil numbers is a medium-term issue and demographic analysis demonstrates it is only a “bulge” and therefore it is not necessary or cost effective to invest in a permanent solution.

- 2.2 At the April meeting of the Buildings, Land and Procurement Panel, Members requested that a report be brought forward to the next meeting on the current status of temporary classrooms on school sites, in addition to contextual information in relation to the success of reducing their deployment. This is in line with the strategy to invest in the replacement of existing poor condition temporary buildings with permanent ones. The headlines are as follows:

| <u>Year</u> | <u>No of volumetric buildings</u> |
|-------------|-----------------------------------|
| 1991 | 1,735 |
| 2003 | 229 |
| 2011 | 121 (155 classrooms) |

- 2.3 Of the current 121 volumetric buildings, 103 are owned and 18 are hired units to support short-term uses (e.g. construction projects). This demonstrates the excellent progress in reducing numbers over the last 20 years. Much of this has been possible because of central Government grant through the New Deal for

Schools programme and the appropriate use of locally resourced capital programmes, along with a general fall in pupil numbers across the County during the last decade.

- 2.4 The condition of all volumetric buildings is carefully monitored and of the current 121 buildings:
- 57 are in good condition
 - 35 are in fair condition
 - 9 are in poor condition (plans will be developed for replacement as condition is assessed)
 - 2 are in very poor condition (plans are in-hand for removal or replacement imminently)
 - The 18 hired units are not surveyed, as they are short-term use.
- 2.5 There is a system of inspection that is accelerated as buildings fall into the poor categories. Children's Services and Property Services' officers work closely together to develop strategies and detailed feasibility studies for replacement or removal. These can include:
- Complete removal if the service need can be accommodated elsewhere, (e.g. within an existing permanent building).
 - Replaced with a permanent structure subject to strict evidence of need and funding (in effect a business case).
 - Replacement with a volumetric building in good condition. This is rare and only done if considered absolutely necessary.
- 2.6 With concerns relating to the future pressure on capital funding and rising school rolls (as referred to later in this report), Members need to be made aware that there may be pressure to do this, even if it is undesirable to do so.

3. Education Capital Funding Context

- 3.1 Primary school rolls are now beginning to rise, and there is significant growth in numbers in some areas of the county. An important aspect of this relates to new housing developments, albeit some established areas are also seeing a significant increase. In addition to capital allocations for new pupil places, significant developers' contributions will also be available. Developer contributions are dependant on housing completions, with the current economic climate raising considerable questions over the pace of such developments. The downturn in the housing market will impact on the timing of the new schools. Detailed discussions will continue to take place with district councils and developers to keep abreast of the situation.
- 3.2 The Director of Children's Services made 13,600 school place offers to applicants for Year R (reception) places in the main admissions round for

September 2010. The equivalent figure for September 2011 is 14,536.

- 3.3 The total pupil numbers in Hampshire's primary schools are forecast to rise year on year from the present as follows:

January 2011 - 94,001
January 2012 - 94,910
January 2013 - 96,305
January 2014 - 98,292
January 2015 - 99,863
January 2016 - 100,734

- 3.4 Though the total numbers of places in the County's schools are not exceeded for September 2011 admissions, there are schools in some areas that are experiencing pressures where demand outstrips supply. For 2011 a number of schools have taken over their published admission number to assist with the pressure where they are able to accommodate extra pupils without experiencing difficulties. As the pressure for Year R places increases, there may be instances when a volumetric solution is an appropriate way forward, particularly when funding is not sufficient for a permanent building or if the requirement is only short-term.

4. Procurement of Volumetric Buildings

- 4.1 The County Council has for some years now procured its volumetric buildings through a framework arrangement. This has ensured that:

- Best value for money and competitive prices are secured
- Demand is managed
- Quality and reliability of the product and services are maintained
- There is the ability for the industry to respond quickly in the event of emergency provision (ie a fire or flood).

- 4.2 More recently, other public sector organisations have been accessing the Hampshire framework arrangements and taking advantage of the expertise available in Property Services. In the current financial climate there is significant interest in extending this at the next procurement anniversary in 2012 to include a number of authorities, particularly those with education responsibility. This has significant benefits to both them and us:

- Lower unit cost through aggregation of programmes
- Securing essential capacity in the industry - it is attractive to the market because of the continuity of business.
- Performance management to ensure a high standard of service

- Income into the County Council for acting as project manager and construction professional.

4.3 This fits well with the strategy for Property Services to extend its business into regional partnerships with other public sector organisations, which was presented to the Buildings, Land and Procurement Panel meeting in April.

5. Modular Construction – Investigating the Opportunity

5.1 Alongside the strategy for volumetric buildings stated above, Property Services and Children’s Services are actively investigating the feasibility of the wider application of modular construction. Design feasibility and cost benchmarking work has commenced with the aim of:

- Identifying opportunities to reduce build cost and professional fees while still maintaining an appropriate high quality product
- Comparing cost and time against performance and quality on a like-for-like basis across volumetric, modular and traditional construction.
- Getting an understanding of the claims of the modular industry that this is the answer to reduced costs by strict benchmarking and comparisons based on our own experience (and that of partners) over the last few years.
- Identifying opportunities for economies of scale, standardisation of design and collective procurement across a number of commissioning authorities.

5.2 This exercise is underway and has recently included engagement of the construction industry through the Tier 1 IESE Framework. Concluding the work and getting the best outcomes can only be done if the industry are involved and support the process. Many of our contracting partners are investigating construction and design techniques in response to the financial climate and expectations from Government that the industry will deliver for significant lower cost.

5.3 This approach is also a workstream in the regional partnership discussions. There is clear evidence from our experience of assembling programmes of work like the Children’s Centres, primary schools and nursing homes in Hampshire that there are considerable savings to be had by joining-up design and procurement. The “size of the prize” increases as the programme size increases. The key for us is to evidence the right methods to use and the best fit of programmes to maximise cost reductions, certainty of delivery and the quality of the product. In this industry, however, “one size will never fit all”. There will still be a need to do “unique projects”, but our aim is to reduce this to an appropriate and relevant minimum.

5.4 The County Council's strategic approach to rigorous feasibility and viability studies has proved robust and fruitful and the opportunity to share this learning with others is currently flourishing.

- 5.5 Procurement of common programmes is being developed for projects like:
- Primary school classrooms (in particular response to basic need pupil number increases). This demographic change is widespread across the county and is not unique to Hampshire. In fact, counties like Surrey have a significantly greater and concentrated demand.
 - Volumetric buildings (referred to in Section 4)
 - Common building components, such as doors, windows and boilers
 - Carbon reduction programmes
 - External cladding and roofing systems
 - Cyclical building maintenance (e.g. decorations and repairs).
- 5.6 These are just a few of the many opportunities that currently exist and many more will no doubt emerge out of the shared service and collaboration initiatives.

6. Recommendation

- 6.1 That the Panel notes the report and a further update on progress of the strategy for Hampshire and collaboration with other public sector partners be reported to a future meeting.

CORPORATE OR LEGAL INFORMATION:

Links to the Corporate Strategy

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|---|-----|
| Hampshire safer and more secure for all: | No |
| Corporate Business plan link number (if appropriate): | |
| Maximising well-being: | Yes |
| Corporate Business plan link number (if appropriate): | |
| Enhancing our quality of place: | Yes |
| Corporate Business plan link number (if appropriate): | |

Section 100 D - Local Government Act 1972 - background documents

The following documents discuss facts or matters on which this report, or an important part of it, is based and have been relied upon to a material extent in the preparation of this report. (NB: the list excludes published works and any documents which disclose exempt or confidential information as defined in the Act.)

| <u>Document</u> | <u>Location</u> |
|-----------------|-----------------|
| None | |

IMPACT ASSESSMENTS:

1. Equalities Impact Assessment:

- 1.1 An Equalities Impact Assessment has been completed in the development of this report and no adverse impact has been identified.

2. Impact on Crime and Disorder:

- 2.1 The County Council has a legal obligation under Section 17 of the Crime and Disorder Act 1998 to consider the impact of all the decisions it makes on the prevention of crime. The proposals in this report have no impact on the prevention of crime.

3. Climate Change:

- 3.1 The contents of this report will have no adverse impact on the County Council's strategy to tackle climate change.