

PLANNING A NEW PUBLIC BUILDING

When planning begins for a new public building many factors need to be taken into consideration to ensure the building meets the city's needs in the best possible way.

Strategic Fit:

A new building needs to fit into the overall strategic direction of Council. The political, social, environmental and financial issues have to be considered to ensure that the chosen option offers the best long-term return. Internal stakeholders should be consulted early on to ensure that the building suits their needs.

Public Consultation:

Assessing what the public wants is a crucial step in providing a building that will serve the public's need. This consultation needs to particularly include local iwi, young people, potential user groups, and groups with special needs, such as those with disabilities.

What are the requirements?

The requirements for new spaces need to be scoped in detail before any further decisions are made. This will include talking to the end users of the building and establishing their space requirements. One option that might reduce the required size and therefore the cost is shared use, where two or more users share the same space (at different times, or at the same time). It is important that the requirements are established well before an architect is engaged to ensure a smooth and satisfying process for all involved later on.

A new building?

The construction of new buildings uses up valuable resources. It needs to be asked if the need could be met by using an existing building and retrofitting it. This might be a building that Council owns or a private building that is available to be rented or bought. A careful cost benefit analysis (including non financial costs and benefits) should be undertaken to establish the best option.

Siting the Building (good urban design)

The way the building interacts with its environment is crucial. The best way to ensure good siting is to consult with Council's planning and urban revitalisation staff. However it might be beneficial to involve external experts for larger projects, such as architects, landscape architects, traffic engineers and project managers. The main issues that need to be taken into consideration are:

- Internal and external stakeholders needs are best provided for against other possible siting options.
- Safe access for pedestrians and cyclists (consider busy roads, proximity to residential areas, shops, etc).
- Pedestrian access should be the main focus of the building, visible from the road, with car parking in a less prominent spot.
- Good design to discourage crime and ensure safety (e.g. good surveillance and lighting).
- Public transport to the site.

- Vehicle access, including parking (however providing too many car parks in a prominent spot will discourage public transport use).
- Sun exposure and shading of the planned building.
- Noise levels.
- Air flows.
- Visual impact of the building.
- Impact on sensitive natural areas, especially through stormwater run-off.
- The amounts of earthworks and vegetation clearance required.

Energy Sources

One of the biggest environmental impacts of buildings is their energy use, the main aim should therefore be to reduce energy use, however different sources of energy should also be considered.

At present there are limited options, generally restricted to gas, electricity, solid fuels, diesel and solar energy. All buildings will generally require electric energy and so-called green energy (from renewable sources) is not generally available, however this may change over time. However other energy sources can be appropriate for some of the buildings requirements, such as natural gas for hot water and heating. Co-generation can also be an attractive and appropriate option. Solar energy can be used to generate electricity or more directly to heat water. The use of diesel or solid fuels is not generally appropriate for environmental reasons.

When evaluating gas as an option it needs to be considered if the supply is guaranteed in the long term. Another consideration is that electricity can be generated from sustainable sources, such as wind or solar, and if this were the case this would certainly be preferable to gas. At present Auckland's electricity demand is met by gas-fired power stations, but this may change in the future or electricity could be generated on site. In the Auckland climate well designed buildings should not require much heating and cooling, it therefore needs to be questioned if gas is an effective investment.

Considering Future Needs

Planning for the building needs to consider what the likely needs will be in the future. However because the community's needs in 20, 50 or 100 years might be difficult to predict it is advisable to plan for flexibility. A flexible building is one that can be used for a variety of purposes.

Good Project Management for Sustainable Buildings

In order to achieve good outcomes the right processes need to be put in place. Many of the items described in this documents are fairly new and architects and other professionals might not be as familiar and comfortable with them. The temptation will always be there to revert to tried and proven practices when the project comes under pressure from budget constraints, tight timelines or political pressure. Good planning and commitment to sustainable principles can help to overcome these barriers.

It is important to be realistic about the budget for the project and make any budget constraints obvious to tendering architects. It needs to be ensured that capital development costs are spent to optimise operational and running costs throughout

the life of the building. In order to achieve this the rough order of costs and all contingency items needs to be accurately identified before the project is committed.

Telling the architect exactly what is required in terms of spaces, features, look of the building etc at the very beginning of the process is crucial. It can be frustrating for architects to deal with Councils because of the large number of staff commonly involved in building projects and this can lead to less innovative design and unsatisfactory working relationships. One of the most problematic things to deal with for the architect is when the client changes his/her mind half way through the project, or when conflicting instructions are given. The project manager needs to manage the interaction between staff and the architect carefully, keeping in mind that Council processes can be somewhat confusing for outsiders.

A lot of barriers can be overcome by good selection of the architect. An architect who is supportive of and enthusiastic about sustainability principles will be more likely to come up with positive solutions to the challenges likely to be faced. When architects are asked to tender for a project it is beneficial to ask for examples of projects where they have incorporated sustainability principles.

Incentives and penalties can sometimes be used to achieve good design. One option is to pay extra for good building performance. For example the tendering document could ask for a building that will use under 100 kWh per square meters of electricity per year. The architect would earn a premium for every extra 5 kWh/m² saved and incur a penalty for more energy used. For this to work reliable modelling during the design has to occur.

The project manager will have to ensure that all those involved comply with the briefing and tendering documentation. With the concept design the architect is required to submit a design report that should outline how the different requirements are complied with. It will be necessary to have someone competent review this report and the design. This could be an internal or an external person. This way a competent assessment of the design is made and the project manager can feel confident that the design meets the requirements checked by the assessor or can ask the architect to redesign certain aspects. In cases where the design does not meet the requirements and there seems little opportunity to change it to meet all the requirements and out-clause may be required. This would mean paying the architect for the work done and starting again with a different architect. However if the brief was prepared carefully this should not become necessary.

When the detailed design (building consent stage) is submitted this should be rechecked to ensure that all conditions in this code are met.

It is important that the architect is aware of and agrees to the process used, especially if payment depends on performance.