

# general

# design standard **01** for all public buildings

The Office of the Government Architect (OGA) has developed a suite of Design Standards for new public building projects to improve the performance and value of these facilities. The purpose of the OGA's General Design Standard is to formalise a set of objective, minimum provisions for design quality to use in the delivery of all public works.



Government of **Western Australia**  
Department of Finance  
Office of the Government Architect

**“We spend a large proportion  
of our daily lives engaging  
with the built environment.  
These places need to be  
safe, attractive, functional,  
productive, sustainable,  
efficient and inspiring”**

**HON Colin Barnett MEd MLA**  
**Premier, Minister for State Development**  
*February 2013*

## The Design of Public Places

The Western Australian Government, through the 'Better Places and Spaces' built environment policy, is committed to delivering excellence in the design of its public places and is seeking the best possible value from its investment in State assets and infrastructure.

### What is Good Design?

Good design is not a subjective idea: it can be defined and measured. Good design extends beyond taste, style and appearance to encompass functionality, sustainability, response to context, structural integrity, flexibility in use, and cost efficiency – both during construction and over the life of a building. It requires the reconciliation of a number of often competing priorities – function, budget, site, performance and aesthetics – within a clearly defined design intent.

Good design means creating buildings and places that:

- Respect and enhance the location, the environment and the community
- Are culturally relevant
- Add value and reduce whole-of-life costs
- Create flexible, durable, sustainable and ecologically sound development
- Minimise waste of materials, energy and water in construction and in use
- Provide functional, efficient, adaptable spaces for work and recreation
- Are attractive and healthy for both users and the public
- Take advantage of commercial opportunities, where appropriate
- Enable construction that is quick, sound, safe and efficient
- Use space, materials and resources with imagination and efficiency<sup>1</sup>.

### The Value of Design

It is well recognised that good design delivers better value for money as well as better buildings, particularly when attention is paid to the full costs of a building over its lifetime. Design and construction equates to approximately 3-4% of a public facility's total operating cost<sup>2</sup>. Maintenance costs alone will typically exceed capital costs three times over. Yet it is during the design process that the largest impact can be made on future maintenance and operational costs.

Global research demonstrates how good design leads to significant qualitative benefits:

- Good schools improve learning outcomes
- Good hospitals can improve staff morale and productivity; and reduce reliance on analgesics and shorten rehabilitation times for patients
- Good workplaces promote improved performance, communication and wellbeing

In Western Australian public buildings, good design will contribute to improving service delivery and operational efficiency, enhancing productivity and supporting government agencies to achieve the best outcomes on behalf of the public. It will also leave a lasting architectural legacy that will contribute to an engaged, inspired and resilient community for years to come.

For further information see the 'Better Places and Spaces' policy available at [www.finance.wa.gov.au/betterplaces](http://www.finance.wa.gov.au/betterplaces).

# Principles of Good Design

Good design requires a holistic approach that successfully integrates a broad range of factors. To encourage better outcomes and to aid the assessment of design quality, the 'Better Places and Spaces' policy identifies principles that are fundamental to the pursuit of good design.

## Innovation & Creativity

Good design requires an approach that embraces innovation and creative thinking. This is necessary to reconcile a range of often conflicting requirements in a clear, coherent way that adds value to a facility and positively impacts on its users and the community. To innovate requires clear definition of project requirements and user needs at the earliest stage, alongside a thorough understanding of best practice, design precedents and current trends in design, construction and operations. To achieve good design also requires innovation and creativity in the way projects are managed, including consideration of design quality management initiatives and tailoring procurement strategies for design expertise and contractor appointment.

## Functionality & Build Quality

Good design delivers high quality buildings and spaces that are fit-for-purpose and respond intelligently to brief requirements to provide both economic and social value. It optimises functional activity and provides efficiency for both staff and users while contributing positively to the public realm. Buildings should be designed and constructed on whole-of-life cost principles using good quality materials in a manner that minimises maintenance. It is important to avoid unnecessary excess and instead seek to achieve the highest quality functional outcome for a given brief within the confines of budget, program and technology.

Public buildings undergo many changes during their lifetime. As a consequence, requirements for space and services change frequently, and space must be reconfigured often. The flexibility to accommodate periodic change needs to be designed into the architecture from the outset, ensuring the building's spaces and systems are respected in subsequent alterations.

## Responsiveness to Context

Good design is distinguished by a careful response to inherited urban fabric and existing building stock, as well as to the State's diverse and unique natural landscapes. Well-designed public buildings should demonstrate a considered relationship with their context and be appropriate to their site, purpose and status within the community. The design and spatial organisation of public buildings should be informed by, and integrated with, their cultural context, site conditions and climate. Heritage settings in particular require sensitive engagement. Through a more integrated response to context, buildings have the potential to offer long-term cost savings, genuine innovation and a stronger sense of local identity.

## Efficiency & Sustainability

Good design takes full account of sustainability and environmental concerns, conserving and enhancing the natural environment, reducing the consumption of natural resources and providing resilient and healthy environments in which to live and work. It considers factors such as solar orientation, natural lighting, maintenance and running costs, energy and water consumption, waste and recycling, and incorporates flexibility to meet future needs.

Sustainability also relates to the conservation, reuse and adaptation of existing buildings and recognises the economic, social and cultural value of our built environment. Depending on the type of project, there are several industry-developed tools available to guide and evaluate sustainability performance. To make proper use of these tools requires the development of project or place-specific sustainability objectives and benchmarks; and coordination of sustainability initiatives within the design architecture.

# Achieving Good Design

To achieve good design, it must be prioritised throughout project planning and delivery. This requires coordination of initiatives and processes that place design quality at the forefront of decision making.

## Key Success Factors

The responsibility to achieve good design is shared between all project stakeholders and agreed principles of good design are vital to establish a common understanding of desired quality outcomes. Equally important is the way that project planning and delivery is undertaken. There are four critical principles to follow in the procurement of public works projects to achieve good design:

- Make design quality a priority – along with time and cost
- Seek expert design advice as early as possible
- Embed design quality aspirations and requirements in the project at the earliest opportunity - it is not something you can simply add on later.
- Approach projects from a whole-of-life, and where possible a whole-of-government perspective, to harness the full value of good design

## Actions

The OGA recommends the following actions that, if put into place during project planning and delivery, will significantly improve the likelihood of achieving good design quality outcomes:

- Prepare a clear and robust vision, business case and brief
- Select an appropriate site based on a considered analysis of needs
- Undertake master planning
- Develop appropriate project budgets and timelines
- Identify champions of good design within key agencies
- Employ design quality policies, standards and research
- Utilise procurement processes which prioritise design quality
- Undertake design quality benchmarking against projects of a similar type, scale and ambition
- Prioritise design expertise within the consultant selection process
- Undertake expert Design Review for key strategic projects
- Involve stakeholders, facility managers and users in the design process
- Undertake Post-Occupancy Evaluation

These actions are outlined in further detail within the OGA's 'Good Design Guide' available at [www.finance.wa.gov.au](http://www.finance.wa.gov.au).



Consistent with the State Government's commitment to good design, design quality criteria are set out below under the three headings of Impact, Functionality and Build Quality.

## **impact** Creating a Sense of Place and Positive Impact on the Community

### **Character**

- Create a distinctive, place-specific facility.
- Respond sensitively to the topography, climate, heritage and ecology of the site.
- Respond to the culture and aspirations of the neighbourhood or community, where possible.
- Convey the civic role of the facility through an appropriate architectural language.
- Demonstrate a clear design intent across all scales and elements (master planning, built form, internal environment, external environment, materials and furniture).
- Provide innovative design solutions that support the ability to deliver government services efficiently.
- Provide well-integrated public art.

### **Built Form**

- Provide built form that engages positively with the site and surrounding buildings.
- Ensure built form consolidates and supports the master planning strategy.
- Ensure built form supports functional and operational intent.
- Provide built form elements that are well-coordinated and composed.
- Project a coherent built form that clearly communicates the facility's function and civic role.
- Provide entrances that are well-scaled, welcoming, clearly distinguished and evoke a clear sense of arrival.
- Integrate service elements seamlessly into the built form, wherever possible.
- Communicate the significance of, and relationships between spaces through the use of scale, proportion, colour and material.
- Facilitate wayfinding and clear movement through the arrangement of form and massing.
- Integrate signage and wayfinding elements.

### **Materials**

- Ensure materials are used in a way that complements the intent of the built form.
- Ensure materials are used in a way that demonstrates their inherent qualities and characteristics.
- Utilise materials within the building fabric suitable to the role and setting of the facility.
- Utilise materials with integral or inherent finishes, wherever possible.
- Utilise high quality materials and finishes that meet the expected standards for civic buildings ensuring:
  - (i) consistency of finish
  - (ii) well-considered use of colour and texture
  - (iii) durability of surface finishes and fixtures
  - (iv) resistance to damage and vandalism
  - (v) minimal recurrent maintenance
  - (vi) good amenity and a positive visual impact.

### **Internal Environment**

- Create open, inviting and generously-scaled communal spaces.
- Provide welcoming entry spaces.
- Provide circulation areas that are enjoyable to use and promote user interaction.
- Provide good internal connectivity with clear views to important reference points such as entries and exits, administration and circulation areas.
- Utilise materials, furniture, colour and texture to create welcoming and stimulating spaces.
- Provide meaningful views and access to external areas from key internal locations, where appropriate.
- Enable wayfinding and a clear, intuitive understanding of the functions of the facility.
- Provide appropriate levels of natural lighting.
- Consider the acoustic impact of material selections and specify acoustic treatments where required to facilitate user comfort and amenity.

## External Environment

- Protect existing environmental features and ecosystems.
- Enhance or regenerate existing natural resources.
- Create a distinctive landscape design that responds sensitively to the site context.
- Provide a landscape environment that is attractive and comfortable for users.
- Integrate the landscape design with the architectural design.
- Utilise robust materials, finishes and elements that require minimum maintenance.
- Utilise climatically appropriate planting and soft landscaping.
- Demonstrate a clear design intent through well-considered use of materials, colour, textures and landscaping elements.
- Provide a landscape environment that is clearly legible and assists wayfinding.
- Integrate Water Sensitive Urban Design (WSUD) principles in the landscape.

## Urban & Social Factors

- Respond to the anticipated demographic, cultural and socio-economic profile of the community and users within the design and planning of the facility.
- Integrate Crime Prevention Through Environmental Design (CPTED) principles in the design of facility.
- Provide opportunities for safe walking, cycling and public transport access to and from the facility.
- Consider providing for provision of additional uses and commercial opportunities, where appropriate.
- Ensure appropriate parking and vehicular access strategies that avoid adverse impacts on the amenity of users and the public realm.
- Provide clearly legible site entry points and access routes that are well connected to surrounding transport networks, land uses and activities.
- Plan the facility to respond to the location of nearby strategic centres, infrastructure and other public facilities.
- Ensure a positive impact and good integration with surrounding urban form, through:
  - (i) appropriate building form and scale
  - (ii) well-considered facade design and presentation to the public realm
  - (iii) provision of a high quality streetscape environment
  - (iv) an appropriate arrangement of functions.



# functionality Meeting the Needs of Staff and Users

## Use

- Minimise distances of travel between frequently used areas for staff and users.
- Ensure space planning supports appropriate and complementary functional adjacencies.
- Locate support zones that are shared by adjacent functional areas.

## Access

- Create legible circulation networks with clear hierarchies of movement.
- Ensure universal access is provided without compromising legibility, connectivity and quality of experience.
- Ensure appropriate separation of user groups, where necessary.
- Ensure clearly legible points of entry.
- Ensure ready access to key building elements, systems and services for maintenance, replacement and cleaning.
- Provide an integrated wayfinding system to ensure that users, visitors, and staff can easily navigate through the facility.

## Spaces

- Organise buildings, servicing and functions so that they relate well to each other.
- Ensure functional and operational needs are supported by spaces that are the right size, shape, proportion and orientation.
- Ensure functional arrangements are integral to the master plan and contribute to the structural organisation of the site.
- Plan to achieve a coherent and well-considered arrangement of spaces.
- Ensure that key functional relationships are clearly legible and supported within site planning and floor layouts.
- Ensure spaces can accommodate future changes to functional and operational requirements where possible.
- Ensure flexibility and adaptability of the facility through appropriate floor layouts, functional planning and site arrangements.
- Provide discrete, adequately sized and secure storage.
- Locate public areas so that they enhance the legibility and clarity of the facility's functional arrangement.
- Ensure planning supports safety, security and operational efficiency.
- Provide planning that enables daylighting, ventilation and acoustic treatments to achieve comfortable and attractive spaces.





# build quality

## Performance of the Built Fabric over the Full Life Cycle

### Performance

- Incorporate initiatives for the improvement of energy and water conservation; and the reduction of waste, embodied energy and emissions.
- Specify materials, elements and finishes that avoid adverse impacts on health and the environment.
- Utilise materials, finishes, elements and systems that are appropriate for the function and quality requirements of adjacent areas.
- Ensure the appropriate level of acoustic comfort relative to the function and use of spaces.
- Utilise robust materials, elements and finishes that are durable and cost-effective to maintain.
- Engage passive environmental design measures that respond to local climate and site conditions including:
  - (i) utilise built form and landscape to create micro-climates that improve comfort
  - (ii) orientate built form to reduce solar gain
  - (iii) organise interior spaces to reduce energy use
  - (iv) exploit thermal mass internally and externally to aid heating and cooling
  - (v) assemble building envelope (structure, facade, roof, windows) to ensure good thermal and moisture control
  - (vi) provide controlled daylighting where appropriate, while mitigating glare and solar gain
  - (vii) provide natural ventilation where possible and appropriate.
- Provide operation and maintenance manuals to enable users to optimise the building's environmental performance.
- Utilise available tools, such as Green Star, to plan and assess sustainability performance.

### Construction

- Utilise construction systems that readily enable future horizontal and vertical expansion.
- Utilise construction systems that readily enable internal modification, service upgrades and replacement.
- Utilise adaptive re-use strategies and existing building fabric to avoid unnecessary demolition, where appropriate.
- Utilise construction systems that are readily available.
- Ensure staged facility construction does not adversely impact service delivery.
- Replace and maintain materials in a manner consistent with the original design intent.
- Consider the energy costs of construction and the embodied energy in the selection of building materials and elements.
- Organise structural systems within the built fabric so that they are clearly and logically organised for ease of use, maintenance and future expansion.

### Services Design

- Organise engineering systems clearly and logically for ease of use, maintenance and future expansion.
- Utilise innovative design, technologies and analytical tools to optimise energy performance and minimise resource consumption.
- Ensure engineering systems are flexible, efficient and economical to use.
- Integrate engineering systems with passive environmental design measures.
- Provide superior indoor air quality utilising both mechanical and passive ventilation systems, where appropriate.
- Select building services that do not compromise amenity and acoustic comfort.
- Utilise standardised and prefabricated elements in the design of engineering systems, where possible.
- Select systems on the basis of servicing requirements and local maintenance capacity.
- Ensure users and facility staff can easily operate thermal controls, where appropriate, without compromising overall system performance.
- Ensure appropriate allowance is made for future expansion of services.
- Ensure plant and equipment are enclosed or screened to protect them from damage or dilapidation.

## References

1. CABI, Better Public Buildings, UK, 2000
2. CABI, Better Public Buildings, UK, 2000

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