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0.1 INTRODUCTION

“Our purpose is to ensure that all public school students leave school well prepared for their future; and have opportunities to develop the skills, knowledge and confidence they need to achieve their potential and play an active part in civic and economic life.”

The Department of Education’s key documents: Classroom First, Effective teaching and Plan for Public Schools 2008-2011 guides policy and underpins whole school planning. Whether designing new secondary schools or planning renovations and additions all design work for public schools need to consider the Department’s core goal:

The public school system will be strong if we work at making:

- Every public school a good school.
- Every teacher an effective teacher.
- Every student a successful student.

The Department’s subsequent document:- Excellence and Equity, Strategic Plan for WA Schools 2012-2015 builds on the on-going commitment made in the above-mentioned document, for classrooms to be at the centre of improvement efforts.

Designing for education is a specialised profession and requires expertise and appreciation in how design influences and enhances teaching and learning - design has the potential to transform schools and experiences for students and teachers. The emergence of youth as digital natives means their access since birth to digital media dictates a need and desire for connectivity between the physical and virtual worlds – and more importantly a connection from local to global communities.

This section within the Secondary School Planning Guide assists all stakeholders involved in the design process to develop a shared understanding around education requirements and more importantly around children and teachers’ needs and of the power when pedagogy meets architecture.

**A SHARED UNDERSTANDING**

Partnerships are not new to the school environment – schools are intrinsically linked to children, their parents and guardians, to their teachers and to the wider community.

This means when a school building project is formed the Department facilitates the development of a Project Consultation Group (PCG) whose role is to review the project against the educational objectives, the Standard Pattern Primary School Brief and endorse design solutions.

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3 Department of Education, Western Australia. 2012 Excellence and Equity Strategic Plan for WA Public Schools 2012-2015.
The following excerpts are drawn from the Department of Education’s document *Excellence and Equity*; however it is recommended that this document should read in its entirety.

**Priority One: Success for all students**

All students can achieve success: our job is to ensure every student has the opportunity to do so. For all students, teachers will identify areas requiring attention, put measures in place to address them and closely monitor progress so students achieve the standards we expect. Teachers will build on the strengths of students and extend their achievements.

**Priority Two: Distinctive Schools**

Schools meeting the needs and aspirations of their students help to build strong communities in Western Australia. Schools will be organised in diverse ways and allocated resources to match local needs. A system of schools will continue to be built in which each school has the autonomy it requires to respond to the needs of its students.

**Priority Three: High quality teaching and leadership**

The basis for improving student learning outcomes is high quality teaching and leadership. Through a greater focus on merit, flexibility and administrative simplicity, the skill sets of staff will be better aligned to the needs of students. This includes expanding investment in professional learning.

**Priority Four: A capable and responsive organisation**

Using resources wisely and making open and transparent decisions build community confidence in public education. Performance will be managed against outcomes, priorities and targets; and technology, research and innovation will be used to drive change. The organisation will be responsive so that all Western Australians have confidence in the high expectations public schools have of their students.

### 0.2 DESIGN PRINCIPLES

The State is committed to providing high quality education environments that support the learning needs of every student. The State has identified the following design principles which are fundamental to achieving good school environments:

- **structure**: organise buildings, servicing and functions so that they relate well to each other;
- **accessibility**: provide ease, safety and choice of access for all users;
- **legibility**: help users to recognise functions and navigate routes around the Site;
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- fit and function: support the intended function of Facilities while also allowing for their adaptability and future expansion;
- character and identity: provide built form, spaces and programming with qualities that give schools a valued identity;
- responsive to context: engage with community through interfaces that are attractive, functional, safe and welcoming;
- inclusiveness and interaction: create a school environment where all people are free to encounter each other as equals;
- safety: organise the Site to support safe behaviour; and
- environmental sensitivity: responsive to climate and Site conditions and enhancing the natural environment.

Schools must be well designed and well-built to serve the community both now and in the future. This means ensuring that education facilities are robust, safe and secure as well as uplifting and engaging environments for staff and students.

The Facilities must provide a high quality building environment. The learning outcomes of students are closely related to the quality of the learning spaces and building performance. Air quality, ventilation, natural light, volume, acoustic performance and thermal comfort have been shown to have a profound impact on student attentiveness, attendance and overall performance as well as providing benefits to staff.

The facilities must enable the teaching and learning outcomes required of a modern curriculum, and be flexible enough to support a range of pedagogical modes and learning styles. Learning environments must be appropriate for individualised learning and innovative teaching, and adaptable to a range of learning and teaching patterns.

Western Australian schools must be flexible in order to accommodate pedagogical changes over their life time and remain Fit for the Intended Purpose. Teaching methods, curricula and the technology available to students and staff are continually evolving, as are the local communities served by school facilities.

### 0.3 DoE LEARNING ASPIRATIONS

Education facilities must be welcoming, safe and stimulating environments which nurture students, support staff and develop communities. Well designed school environments can:

- support effective learning;
- inspire innovation, participation and inquiry in students;
- support teachers in the delivery of quality education;
- enable flexibility to adapt to curricula, pedagogical, technological and demographic changes;
- facilitate engagement with the local community;
- achieve a high level of operational efficiency including low maintenance; and,
- deliver value for money for government over the facility’s full life cycle.
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### 0.4 PEDAGOGY AND SPACE

Spaces within school environments are determined by current and future pedagogical requirements. The interaction between space and learning is complex and may not always be obviously apparent to users, while still delivering tangible benefits.

Pedagogical activities require specific spatial qualities to be effective. Pedagogical approaches are applied through the five core activities or modes – delivering, applying, creating, communicating, and decision making – which have direct implications for learning-settings design.

Buildings are aids to teaching and as such, must have the potential to be used in a variety of ways. Teaching staff should be aware of the potential and limitations of the particular buildings and facilities in which they work. Buildings should not dictate the educational aims of the school, rather offer the potential for a variety of aims.

Learning environments need to support the specific requirements of all disciplines and support a diverse range of active, student centred approaches. Learning is enhanced, deepened and made more relevant when connected learning spaces provide opportunities for:

- active and interactive participation;
- collaborative project work;
- information retrieval and sharing;
- discussion and presentation;
- production of new knowledge;
- teacher and student-led activities;
- connection with experts;
- local and global networks; and
- personalised learning.
School buildings must facilitate and enhance the educational program. Students and staff alike need spaces that inspire creativity and effective learning. The following guiding principles are used to develop learning spaces that maximise student performance:

- **Flexibility;**
  - I. enabling multiple users and uses;
  - II. providing opportunities for physical, virtual and mixed-media in teaching; and
  - III. supporting re-allocation, re-orientation and re-configuration of learning environments.

- **Inclusivity;**
  - I. accommodating access and participation for all;
  - II. responding to local demographic needs; and
  - III. supporting personalised learning.

- **Collaboration;**
  - I. enabling co-operative learning, teamwork and enterprise;
  - II. encouraging community, professional and expert engagement; and
  - III. seeking local, national and global networks, partnerships and learning communities.

- **Creativity;**
  - I. promoting engagement, innovation and learning;
  - II. achieving community and environmental harmony; and
  - III. promoting growth of social capital.

- **Efficiency;**
  - I. delivering faster, deeper learning;
  - II. ensuring sustainable, cost effective utilities and delivery; and
  - III. supporting effective management and administration and operation of facilities.

### 0.5 MASTER PLANNING PRINCIPLES

A holistic approach to Site planning must be undertaken to explore the high level and strategic opportunities and constraints for each Site.

Design driven Site planning decisions have the potential to improve sustainability performance and encourage a strong, site specific sense of identity for each school.

The school designs must support the State's educational aspirations (refer to *B5: Design Principles*), satisfy the design objectives of this section, and make a positive statement to the community.

The designs of the schools must meet all requirements in respect of technical and operational performance, health and safety and compliance with law and regulations.

### 0.6 URBAN DESIGN
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The masterplan and design of each school must reflect the cultural identity of the surrounding area and take into account the school’s physical surroundings to complement the local area in appearance and amenity.

The masterplanning must reference the school’s particular local environment, including:

- the immediately surrounding street network, traffic and pedestrian infrastructure;
- adjacent and nearby community and recreational facilities;
- the local and wider environmental context; and
- the urban form and character of the local built environment.

Masterplanning, including the location of entry points and car parks, must coordinate with the surrounding street network and its traffic management infrastructure. Traffic flow must ensure safe vehicular access to the school and minimal disruption to surrounding traffic movement. The orientation of the school and its entry points must consider student drop off and pick up to maximise accessibility and encourage safe behaviour by parents and students.

Access for students arriving by non-motorised forms of transport must be carefully considered within the masterplan. Where pedestrian or bicycle paths abut or run close to a school, safe and secureable access into the school must be provided.

0.7 LANDSCAPE ARCHITECTURE

The quality of school landscaping is an important part of the overall experience of the learning environment. The landscape design must connect the school and its users to its local community and environmental setting, and consider the character of its built heritage, cultural diversity, biodiversity and topography.

The State requires high quality, value-for-money external activity spaces. These spaces must be designed to stimulate learning, support social engagement and inclusion, respond sensitively to Site, climate and ecological conditions, and contribute positively to the overall quality of the learning environment.

External areas must facilitate movement and visual linkages between buildings, and ensure the security and safety of school users through passive surveillance.

0.8 ENGAGEMENT WITH THE COMMUNITY

School designs must consider opportunities for community engagement and facility sharing. The role of local governments must be considered in the sharing services and as a partner in the ongoing operation and maintenance of the school and community facilities.

Where community facilities, such as open space, are located adjacent to school Sites, the masterplanning must facilitate a community precinct that encourages links and interaction.

Special consideration must be given to:

- the relationship of the school to the public open space;
the potential for afterhours and community use of school Facilities, such as performing arts, hard courts and the oval. These Facilities are to be clearly and easily accessible from the car parks and the school;

- the creation of opportunities for school-aged holiday and after-school programs;

- the separation of community access from inner school areas;

- the planning of shared ovals that are located partially on the school Site and partially on public open space, where possible;

- the Site planning and built form of the school with respect to local amenities and services in the neighbourhood; and

- the skills and experience of local community members which could complement and enrich the school development.

Community opinions and needs must be considered in the development of school environments. Links to the community are particularly significant in disadvantaged or culturally diverse settings, and where an education support centre is proposed.

### 0.9 CHARACTER AND FORM

Schools must portray a sense of civic importance, identity and place, and celebrate the importance of learning within the community.

The school designs must reflect a strong and consistent architectural concept which is expressed through the form and character of the design. This must be addressed through the following design elements:

- Clarity of architectural vision
  I. A civic and human scaled complex to reflect the importance of the school in the community.
  II. Spaces that are well proportioned, fit for purpose and meet the requirements of the Project Brief with efficient circulation and layout.
  III. School buildings and external environments that take respond to the opportunities offered by the Site

- Spatial quality and variety
  I. The designs must place an emphasis on the spatial quality, consistency and variety of separate buildings and component parts. Spaces must be appropriate to their function and meet the performance requirements of the Project Brief.

- Design composition
  I. Each school is to have a harmonious and consistent identity while allowing individual elements to reflect their function.
  II. All built and future proposed building and service elements must be fully integrated and considered at the design stage.

- Built form and materials
I. Consideration must be given light, shade, solids, voids, texture and materiality to enhance and complement the built form.

II. The building form must be informed by and responsive to the following local factors:
   (1) climatic data such as sun paths, air temperature variations, wind force and direction;
   (2) the degree of exposure and view of open spaces;
   (3) the locations, geometry, dimensions, and volume of surrounding buildings, topography, water and vegetation; and
   (4) patterns of movement and circulation.

- Functional planning
  I. Spaces must be considered in both plan and section, and respond to:
     (1) changes of temperature and thermal zones;
     (2) acoustic sensitivities;
     (3) capture of daylight;
     (4) flexibility of learning spaces;
     (5) scope for future expansion;
     (6) staging of works or the delivery of separable portions; and
     (7) the need to display, share and celebrate student work.

- Scale and proportion
  I. Scale and proportion must respond to the age group and size of its students and community.
  II. Visual elements which break up the massing of each school may be incorporated within the design.

- The building as a vehicle for learning
  I. Building features which enhance students’ learning and understanding of structure and construction may be considered.

- Design innovation
  I. Alternative ways to achieve functional requirements and philosophies may be considered, must demonstrate no loss of amenity, and will be fully considered against all design criteria.

- Use of colour and texture
  I. Colour may be used to code, enhance and express the character of different environments. Complex colour schemes and the use of contrasting colours (e.g. red/green) that could create a difficulty to the visually impaired must be avoided.

- Materials
  I. Materials must reflect the form and character of the design and provide variety, with an emphasis on scale, colour and texture.
II. The design must take account of the durability of all the materials and components used in each building structure in terms of their performance, to ensure that the design life of the structure is achieved.

0.10 PUBLIC ART

The Western Australian Government Percent for Art Scheme allocates up to one percent of the estimated total construction cost of each State capital works project, valued at $2 million and over, to commission Western Australian artwork.

The integration of public art with the architecture or landscape of the school environment must be considered at the earliest possible stage.

The process of procuring public art can be a valuable way to engage the community in the development of each school and can contribute to a strong sense of identity.

0.11 ENVIRONMENTALLY SUSTAINABLE DESIGN

The State is committed to reducing its energy consumption and new or renovated Government buildings must be energy efficient.

Each school Facility must demonstrate equivalence with a 4 star Green Star Education V1 certified project. To achieve this target, sustainability must be considered early in the development of a school project, to have the largest impact on ESD performance and long term value for money.

Schools may offer opportunities for demonstrating sustainability initiatives and technologies to students and the community. The sustainability initiatives may also be seen as valuable learning resources, for example through modelling and displaying the building performance of a school, and allowing students to monitor energy use.

0.12 SECURITY AND SAFETY

Schools must provide a safe and secure learning environment. Crime Prevention through Environmental Design (CPTED) must be integrated within the design of the Facilities, as well as other best practice principles and initiatives.

To achieve this, the design of the schools must:

- provide clear and logical street access to administration facilities that permits the supervision of entries;
- promote good supervision of all areas by teachers;
- incorporate clear and logical external signage;
- separate uncontrolled community access from inner school areas;
- where possible, compartmentalise facilities for out of hours use;
- provide safe access to toilets at all times;
- discourage wilful damage;
- eliminate easy access to roofs;
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- avoid alcoves and spaces that hinder supervision;
- ensure that external lighting is strategically placed to facilitate visual surveillance at night;
- include well placed external public address speakers;
- provide easy and open access to first aid locations;
- accommodate emergency service access to all courtyards and school grounds;
- provide safe access to car parks after hours;
- consider onsite traffic management and separation of vehicular and pedestrian traffic;
- provide control measures for other vehicle access in internal areas of the school; and
- mitigate against opportunities for non-approved skating activities.

0.13 COMMUNICATIONS AND TECHNOLOGY

Information and Communications Technology (ICT) is fundamental to teaching and learning in school environments. The planning and design of learning spaces and services must facilitate the seamless integration of ICT, and consider emerging and future technologies likely to enhance learning. Designed and built flexibility to manage future change in ICT may include:

- increased equipment storage requirements;
- capacity of ICT to support individual student computer devices;
- capacity for remote teaching and remote access to online resources;
- implications of offsite servers;
- enabling accessibility of ICT services to the broader community; and
- consideration of current and emerging learning technologies such as tablet computing, massively open online courses, gamification, learning analytics, 3D printing and wearable technology.
0.14 FUNCTIONAL RELATIONSHIPS MAPPING