

Ms Helen Minnican
Committee Manager
Children and Young People Committee
Parliament House
Macquarie Street
SYDNEY NSW 2000

RML 05/4692

Dear Ms Minnican

Please find attached a submission to the Parliamentary Inquiry into Children and Young People and the Built Environment.

The NSW Government and the Department of Education and Training are committed to providing built environments that are conducive to the learning needs of children and young people and welcomes the opportunity to comment on the issues raised by the terms of reference.

The Department continues to develop a rigorous design regime for schools to ensure that the best possible facilities for students are provided. I am pleased to provide the attached submission which outlines some of the design considerations in school facilities with particular reference to matters raised in the Inquiry's Issues Papers.

Senior officers in the Department are available to the Committee, if required. Please contact Mr Mike Cush, General Manager, Asset Management on 02 9561 8632 about aspects of the submission regarding the physical environment, or Ms Robyn McKerihan, General Manager, Access and Equity on 02 9561 8252 regarding educational aspects of the submission.

I wish the Committee every success in its work.

Yours sincerely

Carmel Tebbutt MP
Minister for Education and Training

DEPARTMENT OF EDUCATION AND TRAINING

SUBMISSION TO THE COMMITTEE ON CHILDREN AND YOUNG PEOPLE

INQUIRY INTO CHILDREN AND YOUNG PEOPLE AND THE BUILT ENVIRONMENT

Aside from sleeping, and perhaps playing, there is no other activity which occupies as much of a child's time as that involved in attending school.

-Life in Classrooms (1968)

Educational philosophy and pedagogy has changed dramatically throughout the 20th Century. Of necessity, the design for new learning environments must reflect these changes.

Student centred instruction is characterised by the philosophy of engaging students as individuals with their learning, where the student is at the centre of educational practices in a collaborative educational environment. As instructional practice has shifted from teacher-centred learning to student-centred learning, the development of a quality learning environment that understands and caters for active learning where students are engaged, motivated and self-directed with appropriate technological support has gained prominence. The NSW Department of Education and Training recognises that children flourish in built environments that address the intellectual, social, physical and emotional needs of specific age groups.

In this context, *Issues Paper 1: Introduction and Overview*, prepared for the Inquiry is correct in emphasising the importance of involving children and young people in key decisions.

Issues Paper 2: The Child Friendly Cities Movement, endorses this approach but enters the important caveat that many initiatives under this general heading are yet to be evaluated and that it will be important to carry out this evaluation.

Issues Paper 3: Related Developments in NSW summarises many initiatives consistent with the above being undertaken in NSW. The case study on young people and shopping centres included in this paper is important and illustrates the complexities encountered in this area given the potential for conflicting needs and expectations among different members, including different age groups within the community.

Issues Paper 3 also draws attention to the *NSW Youth Policy 2002-2006 Working Together, Working for Young People* which is currently under review. This policy provides a clear statement of Government intent in a range of areas. Its first strategy is "increasing participation of young people in our community and involving them in decisions and processes that impact on their lives."

The Department of Education and Training strongly supports a range of initiatives to increase students' opportunities for leadership and participation in decision-making in their schools and communities. Despite the complexities identified, and indeed

perhaps because of them, the most effective way of addressing issues of children and young people and the built environment will be to continue to develop these opportunities for leadership and participation of young people and to engage them in dialogue about these matters at all levels, within schools and beyond.

The Department considers various features and issues in the management and design of the school environment.

Design

“Failure to consider the needs of children and young people will render our built environment dangerous, inaccessible and unsatisfactory.” (Issues Paper 1: Introduction and Overview, p 2).

The Department of Education and Training, through its Education Facilities Research Group has established a rigorous regime for the design of government schools.

This regime is embodied in a suite of documents, the Department’s *School Facilities Standards* (SFS), which detail every factor to be considered in the design and construction of schools. These Standards which include: School Facilities, Design Specification, Landscape and Colour, have been formulated through in-depth research, trial and evaluation processes.

Standards have been developed for primary and secondary school facilities as the needs of students depend on age.

The spaces, both internal and external, provided in a new school or in refurbishment projects have been formulated through extensive research and user input to ensure the final designs and layouts are functional and that a natural, inviting, colourful and safe learning and working environment is achieved. An example of the level of detail provided by the facilities component of the SFS is at **TAB A**. These documents specifically display the internal functionality to be achieved for each space.

Site relationships promote a natural, open and free flow transition from internal spaces through semi covered areas to open, outdoor settings. The landscape design complements this transitional concept and it is used to re-inforce social areas and movement patterns.

Curriculum

The curriculum is central to the school’s purpose and functions and like the environment that it operates within, the modern curriculum is subject to relatively short cycles of change and increasing diversity.

In NSW over the past decade both the primary and secondary school curriculum have been revised and changed in significant ways to meet the needs of students and the broader community as they contemplate a world that is increasingly digitalised, employing increasingly sophisticated and complex technologies for both personal and commercial use. Examples of this have included the revision of the Year 11-12 Syllabus to meet the needs of the New Higher School Certificate (2000)

and then the subsequent revision of all the Year 7-10 syllabuses introduced between 2005 and 2006. All six of the Key Learning Areas of the primary curriculum were revised to meet the requirements of the Board of Studies K-10 Curriculum Framework during this same period. These changes led to modifications in new designs.

More recent developments with the Department have been in response to the Eltis Review, *Time to Teach, Time to Learn* which addressed issues related to the overcrowded curriculum in primary schools. By connecting related groups of student learning outcomes from across the Key Learning Areas of Human Society and Its Environment (HSIE), Creative Arts, Physical Education, Health and Personal Development (PDHPE), Science and Technology, the primary curriculum has been integrated in a manner that requires connected learning spaces for segregated learning experiences. In addition to conventional learning areas for direct instruction and support, features within such a design would include:

- spaces that allow for different sized groups of students accommodating two or more professionals/adults at the same time
- quiet areas
- wet weather and activity areas
- open space for shared activities such as dance
- outdoor learning
- specialist resources for cooking, computing, audio display

Children and young people can experience the built environment very differently to adults. For children the built environment can be a place of exploration, excitement and challenge,. Learning can be impeded or enhanced by the environment. Research shows that children and young people learn best by hands on, experiential, inferential work, not didactic, directive teaching. The built environment needs to support this style of learning.

It is through the provision of quality learning environments where students and staff feel valued and supported in their learning that effective educational practices flourish. This is supported by Bruce A Jilk in his paper, *Place making and change in learning environments*, when he states “the design of learning environments should be responsive to supporting effective education”.

Within this context it is important to examine ways of linking the curriculum to other considerations in the design of a new school or modification of existing structures and learning spaces. The Department’s Facilities Standards Committee and Education Facilities Research Group provide the mechanism for interaction between curriculum requirements and the design of school buildings. Through such interaction both the specific requirements for each syllabus area and the more general trends across all curricular areas can be outlined and discussed.

Inclusion of students with disabilities

In recent years, concerns about the access and other needs of students with disabilities have emerged as important considerations in school building design. The Disability Discrimination Act 1992, Standards for Education (2005) have a major

influence on provisions for students with disabilities. They offer guidance for education authorities in providing access for students with disabilities to the full range of educational services.

The range of adjustments to the built environment may vary from the provision of physical access to all areas of a school for students with physical disabilities, through to more minor adjustments such as specialised lighting and acoustic features for students with sensory impairments. These adjustments are managed on a case by case basis.

A recent British study (Wooley et al 2006) found that some physical barriers exist to the inclusion of children with disabilities in play in primary school playgrounds. These related to access to playgrounds and the fixed equipment within them, the design of the playground and the fixed equipment, and details in the playing surfaces and access between them. When adapting a school for the inclusion of students with disabilities it is easy to overlook the playground.

Particular attention needs to be paid to the particular learning needs of students with emotional and behavioural difficulties. New behaviour schools have been designed to be pleasant, open spaces that are welcoming and encourage interaction of students and encourage positive learning experiences. Such schools need flexible spaces that the students can then vary and decorate. Withdrawal spaces are essential so that students can remove themselves from distracters to facilitate emotional control.

Teachers' workspaces

To optimise learning, attention needs to be paid to the design of teachers' workspaces. Workspaces should be designed with consideration of how to support teachers' activities and interactions in and beyond the classroom, within and across subject boundaries. Attractive and functional common rooms for teachers are desirable.

In addition to teacher workspaces, other teacher areas such as the signing on room, photocopiers, common rooms and pigeonholes should be designed to facilitate collaborative working, so that good learning outcomes are achieved.

Changes to teaching practice brought about by teacher professional learning require a compatible work environment. For instance, the successful implementation of the Department's *Quality Teaching Framework* requires considerable flexibility in terms of the built environment.

The Department's *School Facilities Standards* incorporates these design requirements in the provision of new schools and in the upgrading of existing schools.

Safety

“Children view their surroundings differently from adults...A fence railing or electricity box, are potential play structures for children.” (Issues Paper 1: Introduction and Overview p6).

An aspect of the *School Facilities Standards* (SFS) is the commitment to safety. Each product specified for use in schools has undergone a rigorous evaluation process. Issues of toxicity, durability and safety are thoroughly researched and confirmed to be suitable before a product is specified in the SFS.

Design solutions, which recognise the curiosity of students, are also detailed in the SFS. This is a theme that drives the design information for schools. An extract from the Design Standard supports the above comment:

“Particular attention is required to prevent relatively easy access from surrounding surfaces to structural elements and roofs at high levels, and so avoid students using the facilities as an advanced obstacle course.” (Design Standard – Section 14.02 General).

Further extracts at **TAB B** cover a broader range of dangers to be avoided in the school built environment.

The Department makes a conscious effort to minimise risks to students, exceeding the requirements of the Building Code of Australia (BCA) in situations where there is a perceived greater risk in the school situation. An example of this is the use of balustrades. The BCA requires balustrades where changes in level (fall point) exceed one metre. In the SFS this height has been reduced to 300mm as an increased safety measure.

The Department is also conscious of safe natural environments for students. The *Landscape Standard* (**TAB C**) has specific information on the types of plants either banned or to be avoided for use on school sites.

The width of school corridors is another important safety consideration. Research shows that corridors need to be as wide as possible to prevent overcrowding when large numbers of students change classes. Overcrowding can lead to negative interactions.

A further issue for school building design in the twenty first century is security from intruders, both during school hours and after hours.

Values

Schools play a central role in the lives of children and young people. A clean, bright, well maintained school tells children and young people that they are valued by the community and that education itself is valued. Students are more likely to be attached to such schools and attachment to school has been found to be a protective factor which enhances resilience or the ability to bounce back when difficulties arise.

A school should be welcoming. In the first place this means that the office and

reception area should be clearly identifiable to enable parents, teachers and community members new to the school to find their way without difficulty.

Many aspects of the school environment communicate the values of the school community. The use of shade shelters, for example, demonstrates concern for student health. The decision to convert a school hall into a gymnasium implies certain curriculum priorities. The landscaping of the playground may show the relative importance of student recreation.

Joint use of facilities, between schools and TAFE demonstrates the continuity of education and provides an environment to encourage students to continue their education.

The literature accompanying this request for briefing also indicates a connection between the welfare of school students and the design of school buildings. This connection is clearly plausible but it is not easily demonstrated in detail.

Playgrounds

In addition to the SFS, a range of resources have been developed to assist schools to provide a safe and healthy playground environment. These include the '*Landscape Management in NSW Schools*' manual, '*Guidelines for Fixed Playground Equipment*' and '*Sun Shade in Schools*'.

The playground is an important learning area. For many children it is the only remaining area of the community where they can organise their own games and move around as freely as the space allows. Student leaders in both primary and high schools have an important role to play in developing and maintaining a positive playground environment. Restructuring playgrounds through consultation with students provides opportunities for different kinds of social interaction and learning. It can also minimise bullying.

Toilets

Toilets are a key concern for students. Their placement, visibility, state of repair, and cleanliness are all very important. Some students do not perceive school toilets as safe because they provide opportunities for bullying and harassment.

An important factor in school design is that spaces lend themselves to appropriate and adequate supervision to prevent illegal and unsanctioned activities such as smoking tobacco and drinking alcohol.

Student Input

“Rights of the Child highlights the need to involve children and young people in the key decisions affecting their lives, including decisions about the built environment.” (Issues Paper 1: Introduction and Overview p 2).

Children and young people have extensive opportunities to input into the built environment of schools in NSW. For nearly two decades students have been

involved in the Post Occupancy Evaluation (POE) of their schools.

POE is conducted annually on recently completed capital works projects. These projects may include new schools, new buildings or major refurbishments to existing schools. For the 2005 POE twenty eight schools were surveyed. Of the responses received 20% were from students. **TAB D** is an indication of student input and feedback through the POE process.

On commencement of a capital project for a school, many 'school building committees' have student representation. This involvement provides an excellent opportunity to receive timely input, from a student's perspective, into the concepts proposed for the school. Some schools have even extended this involvement of students by creating units of study that examine the design and construction processes as the project progresses.

Schools that consult students regularly are likely to be able to utilise whatever space or architectural features are available to them to better effect than those who do not consult students. Children and young people need to be consulted about the usage of their learning environment. This improves ownership and connectedness. Consultation processes should include the usage, decoration and flexible development of the learning spaces.

The Community

School buildings should be responsive to the uniqueness of local contexts. This is reinforced in the DET's document, *One Size Doesn't Fit All*, which sets out the results of consultations with the community on the principals and priorities which should guide education policy for the next 5-10 years. A major theme in the report is the role of the built environment in attracting enrolments, and in maintaining school morale and image in the wider community.

The report's findings emphasise the need for greater discretion at the school level in the management of school infrastructure, including maintenance and minor capital works.

The report recognises that schools are community resources. School designs should enable some parts of the school to be open after school hours while the rest remains closed. Wide consultation in the design of schools ensures that they are a valued part of the community. Both parents and other community users can make valuable contributions.

The Department's School Facilities Standards include modern and flexible facilities that reflect a student focus to learning. One of the key components of project delivery in capital and maintenance works is consultation with the school community and this has been enhanced in recent years with the establishment of school regions.

Research has shown that after school activities protect bored children and young people from becoming involved in criminal or unsanctioned activities and help them become more engaged in schooling. The Department's Community Use of School Facilities Policy encourages appropriate after-hours use by the community.

Conclusion

The UN Rights of Child (1990) requires educators to “glean and incorporate children’s views”. This would include their thoughts on the built environment. Good schools understand this implicitly. It will be of great benefit to students if the Inquiry into Children and Young People and the Built Environment becomes an occasion for making these understandings explicit.

References

- Mark Dudek *Children’s spaces* Architectural press, an imprint of Elsevier, Linacre House, Jordan Hill, Oxford. 2005.
- Jackson, P.W. 1968, *Life in Classrooms*. New York: Holt Rinehart and Winston.
- Jilk, B. (2005): *Place making and change in learning environments*. 2005, Chapter 3 *Children’s spaces*
- Peter Kingston, ‘*Gleaming Spires*’ Education Guardian, 13 April 2004
- One Size Doesn’t Fit All*, Report on the consultation on future directions for Public Education and Training Document, 2005.
- Woolley, H. 2006 Inclusion of disabled children in primary school playgrounds'. Joseph Rowntree Foundation UK

Item Ref.	Item
14.00	<p>SAFETY (ACCIDENT AVOIDANCE)</p> <p><i>DS / INTRODUCTION</i> <i>DS / GENERAL</i> <i>DS / STANDARDS</i> <i>DS / STRUCTURE</i> <i>DS / SUN SHADES</i> <i>DS / ACCESS TO ROOFS</i> <i>DS / SAFETY AROUND MACHINES</i> <i>DS / Planning - Security Checklist</i> <i>DS / Openings - Security</i> <i>DS / Installations - Lighting</i> <i>DS / Installations - Security Alarm Systems</i></p>
14.01	<p>INTRODUCTION</p> <p>The Occupational Health and Safety Act and the Department of Education and Training principles of student safety and welfare mandate the avoidance of accidents through careful design of facilities. This section lists some, but not all, of the design considerations that must be encompassed to avoid accidents in the built environment.</p>
14.02	<p>GENERAL</p> <p><i>DS / FINISHES - MATERIALS AND FINISHES</i></p> <p>The design of facilities should not only be inherently safe but visually and pragmatically safe and not to tempt students or the general public into unsafe practice. Particular attention is required to prevent relatively easy access from surrounding surfaces to structural elements and roofs at high levels, and so avoid students using the facilities as an advanced obstacle course.</p> <p>Circulation or active play areas should be planned to avoid situations where a head could strike low building elements such as stair landings, roof overhangs or beams etc. Depending on the space available, landscaping, walls, rails, seats or enclosures may have to be utilised if the situation is considered hazardous.</p>
14.03	<p>STANDARDS</p> <p>All materials must comply with appropriate safety standards, (<i>refer Australian Standards</i>). Pay particular attention to all standable or walkable surfaces including the roof, skylight strips, skylight domes, turbo vents, fans, etc.</p>
14.04	<p>STRUCTURE</p> <p>Inclusion in designs of exposed structural struts should be minimised and well out of reach of the potential unsanctioned gymnast, that is beyond 3m</p>

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	vertically or 2m horizontally from any standable surface.
14.05	<p>SUN SHADES Sunshade frames where within reach 3m vertically or 2m horizontally from any standable surface should be designed to prevent the possibility of a handhold, or by infilling the frame with expanded mesh or the like.</p>
14.06	<p>ACCESS TO ROOFS</p> <ul style="list-style-type: none"> • Walkway roofs and any roof adjoining another roof or building should be positioned and designed to prevent students or the general public using them to gain access over the whole facility. Particular attention and design solutions are required when walkway roofs adjoin second storey verandahs etc.
14.06 cont.	<ul style="list-style-type: none"> • Avoid assisting access to roofs and upper levels via low eaves, walkway roofs, porches, security fences, balustrades, overhangs, ledges, mullions, indents, down-pipes, hardware items, trees etc. • Eaves must not be below 2100mm. • Adjacent walls, fences, balustrades, awnings etc must be about 2000mm clear of eaves of buildings and covered walkways.
14.07	<p>SAFE WORK ON ROOFS & SAFETY LINE SYSTEMS <i>Codes of Practise - Safe Work On Roofs Part 1 Commercial & Industrial Buildings, and Safety Line Systems, both by the Work Cover Authority.</i></p> <p>Possible Requirements To Be Confirmed By Consultant:</p> <ul style="list-style-type: none"> • Provide anchorage points for static lines (cable) and /or for inertia reels. • Anchorage points need to withstand an imposed load as determined in the applicable Workcover Code of Practise, or in accordance with an engineer's specification. • The span is to be supported as per the Workcover Code of Practise or in accordance with an engineers specification. • Collared eye bolts to AS 2317 can be used in the system.
14.08	<p>STEEL COLUMNS PLACEMENT</p> <p style="text-align: right;"><i>DS / FABRIC- EXTERNALLY</i></p> <p>Steelwork below 2100mm above ground is to have an unpainted galvanised finish to reduce maintenance.</p> <p>To minimise the potential hazard of students running into sometimes difficult to see galvanised steel columns, the following should be done:</p> <ul style="list-style-type: none"> • The placement of columns must be carefully considered at Design Stage, with regard to openings, circulation routes and access desire lines. • Where verandahs, walkways or COLAs converge to create a potential profusion of columns, share columns to reduce their

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	<p>numbers.</p> <ul style="list-style-type: none"> • Consider other structural options to reduce their numbers (eg increased spans). • Utilise landscaping or railings to redirect student's path of travel. • Where a hazard is revealed, use bands of heavy duty, brightly coloured vinyl adhesive tape at adult and child eye level around the column. • Columns may sometimes depart from the basic form to emphasise the main entries of core facilities.
14.08.1	<p>DOWNPIPES ATTACHED TO COLUMNS</p> <p>Where downpipes are supported by cleats off columns or walls, the gap between downpipe and column or wall must be sized to avoid creating the potential for entrapment of a knee, torso or head.</p> <p>Gap Dimension</p> <ul style="list-style-type: none"> • 70- 85mm (preferred by KidSafe-Playground Advisory Unit). <p><i>Note: If a bend is needed at the bottom of the downpipe, to reach the sump, this may pose a trip hazard in some locations.</i></p> <ul style="list-style-type: none"> • 124mm allows larger straight downpipes to more easily align with the sump. • Bottom cleat to be less than 600mm above the ground. <p><i>Note: 125 – 350mm at minimum 600mm above a horizontal surface is considered dangerous for entrapment because it could allow a torso to pass but might entrap the head when feet can't provide support. (Advice from KidSafe).</i></p>
14.08.2	<p>PERFORATED METAL PANELS</p> <p>Where perforated metal panels can be accessed on balustrades, screens etc, the holes are to be < 7mm dia so small children can't poke their fingers through and risk injury. Where larger holes are preferred, they should be nominally 25mm dia. This is safer for fingers and avoids creating a potential toehold.</p>
14.08.3	<p>PLACEMENT OF FIRE HYDRANTS</p> <ul style="list-style-type: none"> • The placement of hydrants should be carefully considered at Design Stage with regard to circulation routes and access desire lines, to minimise the potential hazard of students running into the hydrants. Consult with the school where possible. • Utilise landscape elements, or railings to redirect student's path of travel clear of hydrants. • Consider the visual impact of the fire hydrant location in the Entrance Zone. <p style="text-align: right;"><i>Refer DS/BCA/FIRE BRIGADE APPROVAL DS/FIRE PROTECTION/FIRE HYDRANTS</i></p>
14.09	<p>SAFETY AROUND MACHINES</p> <p>As grave injury can occur, it is important to ensure that machinery and work areas are laid out in a safe and useable manner.</p> <p>Large-scale special area drawings are required which show:-</p>

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	<ul style="list-style-type: none"> • The machines themselves. • The space needed for pupil operators. • Circulation of other pupils and instructing teachers. • Space for occasional machine adjustment and maintenance. • Space for occasional large jobs associated with some machines. <p>These needs are shown in more specific detail in the drawings.</p> <p>Note the following:-</p> <ul style="list-style-type: none"> • Operator Positions assumed occupied. Considered as integral part of machines and should be shown to scale on layouts. 600mm mandatory min. safe space for operating zone. • Operator Zones, minimum clearance to another operator zone or traffic way, ie.: no overlapping (assumed to be occupied - ie., comparable with yellow floor lines). • Traffic Way Positions, frequently used. Traffic ways are required for safe access between and to all operators (eg: by teacher). 600mm mandatory min. safe space for traffic ways. • Machine Zones, minimum clearance to wall or screen (without traffic way); or another machine (non-operating side); or fixture at work-plane level. Screen or wall preferred to avoid potential hazards. • Minor Adjustment Positions:- Indicates machine parts requiring space during adjustment or maintenance (infrequently used). <p>If machines are located back to back they should be:-</p> <ul style="list-style-type: none"> • separated by safety screening 0.9 to 1.5m above floor. • Transparent for supervision and impact-resistant. • Screens could be fitted to machines without interfering with job clearances, thus improving both flexibility and safety. • Most machines (lathes, drills, grinders) should where possible be located near walls to reduce: <ul style="list-style-type: none"> • hazards of traffic passing behind. • hindrance to spatial flexibility. • Need for special safety screening. • Floor conduit placement problems. <p>Trade names and diagrams used, only indicate the typical machine measured, but actual specifications for machines for particular projects should be checked with the government contract current at that time.</p> <p>Power Outlets are shown in the approximate preferred locations near the machine inlets.</p>

2.4 Harmful or irritant plants

2.4.1 The school landscape should be designed to minimise the risk of allergic reactions.

Strategies

- **Restrict use of potential allergenic and toxic species** by consulting relevant sources. These may include books, websites, local Councils, NSW Department of Agriculture, and regional botanic gardens.
- **Limit the use of plants known to exacerbate the problems of hayfever and respiratory diseases.** They may be used away from areas of high to moderate use. Particular species with this tendency include, but are not limited to: *Alnus*, *Fraxinus*, *Betula*, *Coprosma*, *Cupressus sempervirens*, *Cupressus macrocarpa*, *Callitris glaucophylla*, *Ulmus spp*, *Liquidambar styraciflua*, *Acer spp*, *Populus deltoides*, *Melaleuca leucodendron*, *Olea spp*, *Morus spp*, *Ligustrum spp*, *Acacia spp*, *Melia azedarach*, *Salix babylonica*, *Davidsonia pruriens*, *Grevillea 'Robin Gordon'*, *Lagunaria patersonia*, *Rhus spp*, *Grevillea robusta*, *Casuarina equisetifolia*, *Platanus spp*, *Hedera helix*.
- **Minimise locations of decaying organic matter** (e.g. mulch, grass-clippings, straw and hay) especially near prolonged student access/activity. The spores from mould fungi on decaying organic matter are known to cause asthma. Consider inorganic mulches such as decomposed gravel (on flat beds only). The use of spreading groundcovers will also reduce the need for mulch in garden beds.
- **Restrict the use of plants that are known to cause eczema and hives to low use areas.** A limited list follows: *Anigozanthus spp*, *Brachychiton populneus*, *Cordyline australis*, *Cordyline stricta*, *Eucalyptus pilularis*, *Grevillea 'Poorinda Firebrand'*, *Grevillea 'Robyn Gordon'*, *Grevillea sericea*.
- **Use low-allergy plants in areas with high student contact.** These are generally plants which are pollinated by birds or insects, and include many native species, such as: *Banksia spp*, *Westringia fruticosa*, *Hakea spp*, *Correa spp*, *Acmena spp*, *Syzygium spp*, *Agonis flexuosa*, *Corymbia ficifolia*. Other low-allergy plants include *Camellia spp*, *Citrus spp*, *Aquilegia spp*, *Impatiens spp*, *Malus floribunda* and *Prunus spp*.

- **Some low allergenic plants to be considered in the design include:**

Native Groundcovers

Rosy Heath Myrtle (*Baeckia ramosissima*),
Prostrate Coast Banksia (*Banksia integrifolia*), River Rose,
Dog Rose (*Bauera rubioides*), Prostrate Callistemon (*Callistemon comboynensis*,
Callistemon personii),
Guinea flower
(*Hibbertia scandens*, *Hibbertia pedunculata*).
Red flowering Paperbark
(*Melaleuca hypericifolia*)
Native Violet (*Viola hederacea*), Kidney Weed (*Cotula filicula*, *Dichondra repens*, *Mazus pumilo*, *Mentha diemenica*),

Native Climbers

Sweet Appleberry (*Billardiera cymosa*),
Purple Appleberry (*Billardiera longifolia*),
Dusky Coral Pea (*Kennedia rubicunda*),
Wonga Vine (*Pandorea pandorana*),
Passionflower (*Passiflora cinnabarina*).

Introduced Shrubs

Glossy Abelia (*Abelia grandiflora*),
Camellia (*Camellia japonica*, *C. sasanqua*),
California Lilac (*Ceanothus cyaneus Blue*).

2.4.2 Toxic plants should not be used in the school landscape.

- **The following plants are toxic and must not be used.** This list is not exhaustive and the relevant Local Authority should be consulted for further advice on toxic species:

Angels Trumpet
Arum Lilies
Castor Oil Plant
Crepe Jasmine
Daphne
Deadly Nightshade
English Yew

Hemlock
Lily of the Valley
Native Loquat
Oleander
Poinsettia
White Cedar
Rhus
Golden Chain Tree

2.4.3 Trees prone to limb drop should have limited use in the school landscape.

- **Restrict the use of species prone to limb drop.** If endemic to the area or existing as mature trees, carefully consider their location and surroundings to minimise risk. A limited list follows: *Corymbia maculata*, *Eucalyptus citriodora*, *Eucalyptus camaldulensis*, *Eucalyptus mannifera*, *Eucalyptus maculosa*, *Eucalyptus regnans*, *Eucalyptus rubida*, *Eucalyptus saligna*, *Eucalyptus viminalis*, *Erythrina spp*

TAB D

STUDENT FEED BACK

PRIMARY

- “Great classrooms and I like the colours” – Auburn West Public SCHOOL
- “More people are being involved.... there is more useful disabled access” – Auburn West Public School
- “(The) school has a good look and it is a good size” – Alford's Point Public School
- “The heating in winter and fans in summer” – Alford's Point Public School
- “Access to more computers” – Alford's Point Public School

SECONDARY

- “Good ventilation, the furniture is big and you have enough room to move” – Henry Kendall High School
- “The landscaping is very tidy and neat – gives a professional feel to the school” – Henry Kendall High School
- “Having a senior study area is good” – Henry Kendall High School
- “New fresh buildings – community spirit” – Henry Kendall High School
- “The new buildings are good, especially the Industrial Tech timber rooms – they are big and open” – Henry Kendall High School
- “The school is more aesthetically pleasing, and good layout” – Henry Kendall High School
- “The new library is good, feels positive” – Callaghan College Wallsend
- “The classrooms are modern and clean” – Fort Street High School
- “There is a lot more space, the new buildings are great” – Fort Street High School
- “New furniture is good” – Fort Street High School
- “Big music and drama rooms” – Fort Street High School
- “The amount of natural light” – Fort Street High School
- “New, clean, looks good, classrooms are organised and in a good location” – Fort Street High School
- “Modern/contemporary appearance” – Fort Street High School
- “The school feels well maintained” – Northern Beaches – Freshwater Senior Campus
- “Great facilities – and appearance. The school has functionality and usefulness” – Northern Beaches – Freshwater Senior Campus
- “The appearance is very neat and tidy, modern. The feeling is welcoming” – Northern Beaches – Freshwater Senior Campus
- “It is (the school) a clean environment with great facilities” – Northern Beaches – Freshwater Senior Campus
- “This school is very modern and it is very user friendly and open. This school is most likely the best school in the area” – Northern Beaches – Freshwater Senior Campus