2.14 Accessibility Strategy

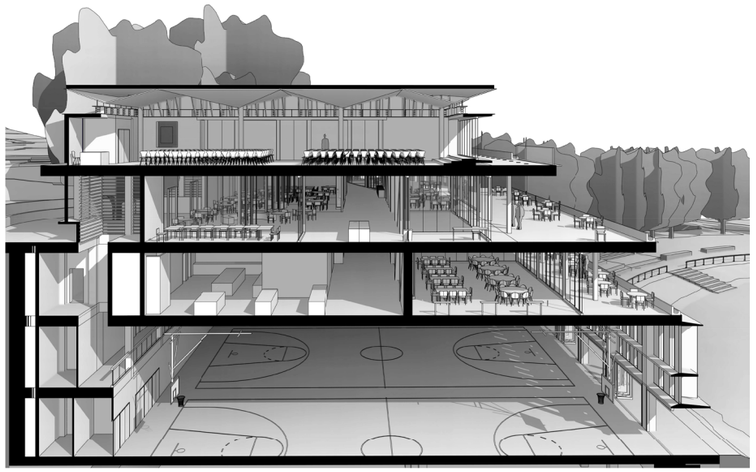
The vision and design brief for new development at Cranbrook engages students, educators and the community and provides a diverse, attractive, and accessible range of spaces to learn, play and socialise.

The existing Campus already encourages accessibility and inclusiveness through multiple welcoming entries and a balance between surveillance and security through CCTV cameras and boundary fences. The accessibility will be enhanced with a new pedestrian gate and entry which will provide direct access to the Heritage Precinct and the new development.

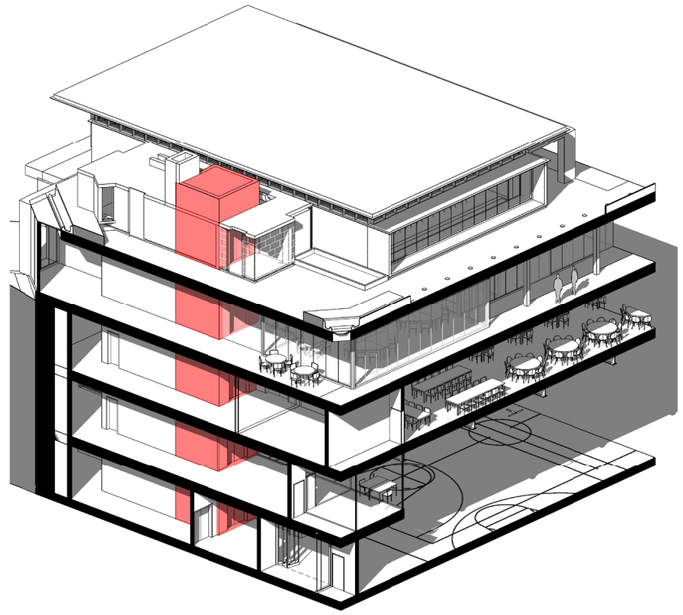
The new development will improve equitable access for all throughout the campus by integrating a lift at the Heritage Precinct level linking through the Centenary Building into the existing levels of the campus. The lift will allow access from the Heritage Precinct, to teaching street, to the new Camellia Court and all the way down to The Oval level. The improved equitable access from street level to every level of the new development promotes a sense of inclusion and community and reaffirms the attachment to place.

The new street frontage to New South Head Road creates access to the Northern end of the Campus which did not previously exist, through the introduction of the Aquatic and Fitness Centre. This connection to the Campus is prominent, highly visible, engaging, and welcoming. The school will actively seek opportunities for the facilities to be shared with the community and accommodate activities outside of school hours.

The design will incorporate clear and logical wayfinding across the school site and between buildings for all users, including afterhours community users, for ease of navigation throughout the Campus.



Centenary Building Sectional Perspective



Lift Core Axonometric

2.15 Occupant Amenity

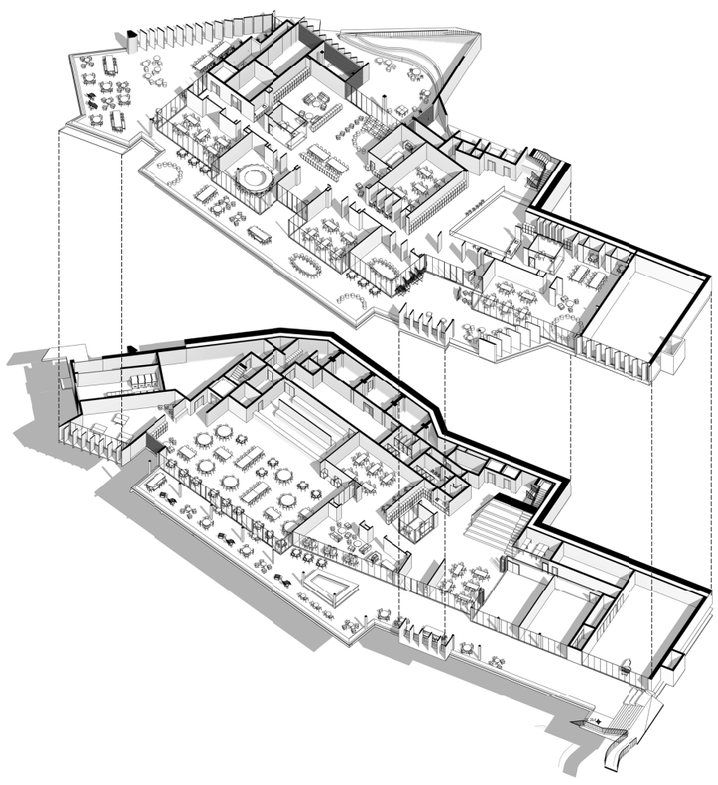
The proposed design for the teaching facilities in the Centenary Building offer modern classrooms which are purposefully designed to provide the pupils with access to natural light, fresh air and thermal comfort. The design of the learning and teaching spaces provides an environmentally sustainable approach and looks to minimise the use of energy and maximise the available comfort levels within the proposed spaces.

The Mechanical reverse brief prepared by DSA Consultants describes a four stage approach will be considered in the design for each individual space. This approach will consider the following:-

- Natural ventilation of the space for compliance with BCA and the use of buoyancy to draw air through a space.
- Mechanically assisted ventilation where the exhaust will be assisted with fans and make up air still drawn through naturally.
- Air conditioning utilising heat recovery heat exchangers built into the air conditioning system
- Direct air conditioning to the space

Generally the air conditioning systems proposed are to be simple and effective minimising complicated systems which are easy to operate. A Building Monitoring and Control System would be provided to automate the control of the mechanical services.

A major initiative to reduce, embodied energy and emissions, through passive design principles is the proposed natural ventilation to the large multi function space which takes advantage of the sites open northerly aspect and the Southernly winds and utilises the stack effect to move the hot air out of the multi function hall and generate cross flow ventilation to cool the space.



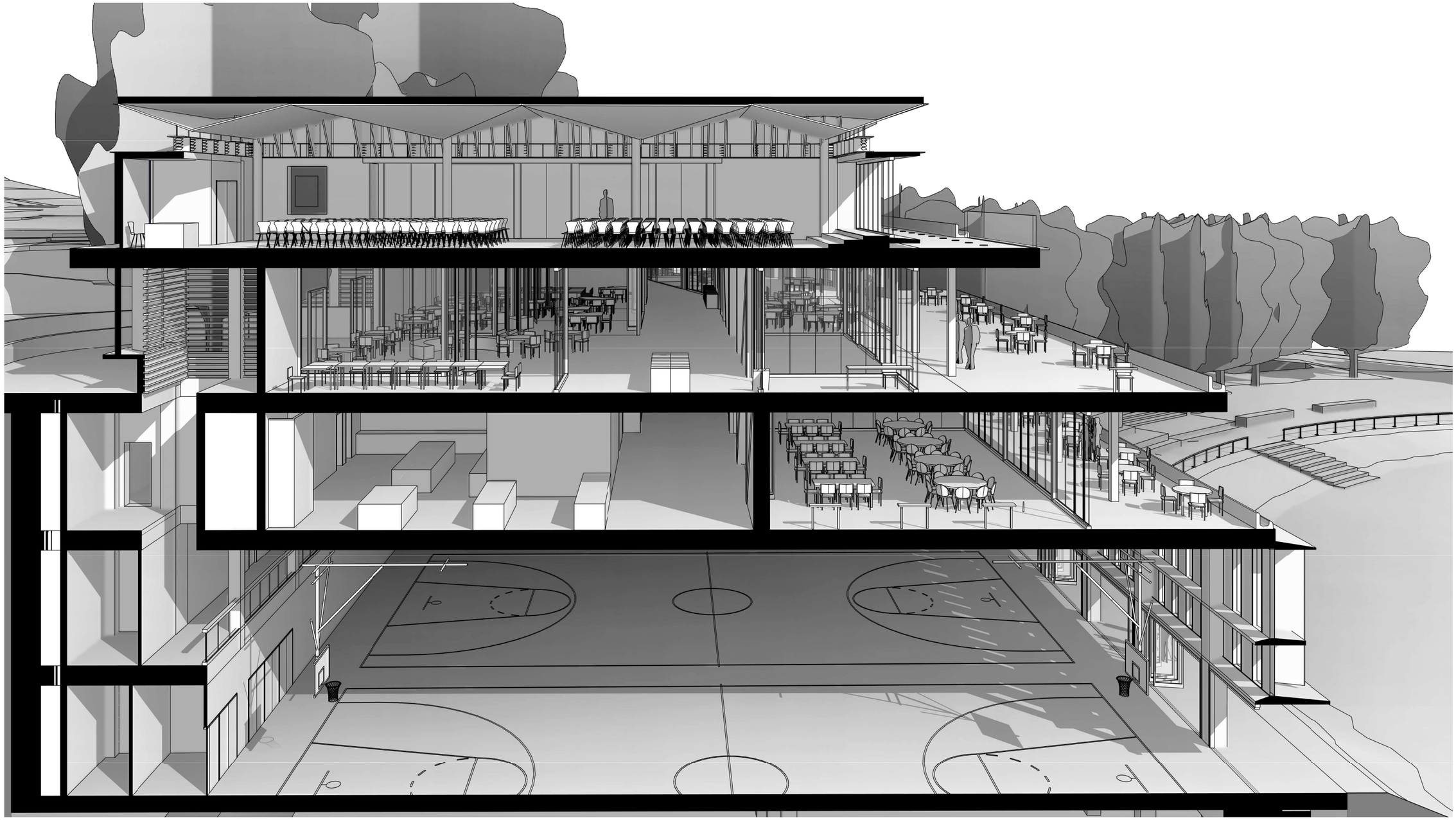
01

02

03

04

01 Indicative Internal Learning and Teaching Levels layout
02 Teaching Street
03 Aerial of Centenary building
04 Teaching Street approach from Oval



2.16 ESD Strategy

The school is committed to creating positive environmental, social and economic outcomes through well designed spaces with the objective to minimise the consumption of energy, water and natural resources and reduce waste and encourage recycling. Arup has provided a full ESD report which identifies ESD methods which can be incorporated into the design.

Methods under consideration for achieving this include:

- 5-star Green Star in principle rating.
- Reduce water demand by using rainwater capture and reuse
- Improve urban environment by including extensive planting

The sustainability strategies to be incorporated into Hordern Precinct Development focus on creating a comfortable, flexible and community focussed space providing learning and teaching facilities alongside social study and collaboration spaces which are centred upon the following core principles:

- Comfort and Wellbeing
- Energy and Carbon
- Materials
- Water

Comfort and Wellbeing
The following indoor environment quality strategies are being investigated to achieve sustainability performance in a manner that also improves the occupant experience of the space.

- The air conditioning system will be designed with ducted fresh air which will exceed Australian Standards.
- The acoustic insulation of the building will be designed to provide appropriate and comfortable acoustic conditions for occupants.
- Efficient, flicker free lighting.
- The lighting levels and glare reduction will comply with best practice guidelines.
- Maximise the accessibility to high quality external views.
- Maximise the amount of natural daylight to the building. This provides passive solar heating during winter and increases the solar access to occupants while minimising solar gain during the summer.
- Indoor air quality will be improved by eliminating products, such as paints and carpets that do not meet appropriate minimum VOC standards.
- The building design will promote a high level of thermal comfort for occupants by controlling the envelope gains and designing to best practice HVAC standards.

Energy and Carbon
Energy is a key sustainability driver of the design of Hordern Oval Precinct redevelopment. The overall strategy targets a significant improvement over the DTS Section J requirements and of the development of systems to generate energy onsite.

The fabric performance requirements are addressed in the design by optimising the glazing performance and shading configuration for each orientation. This is to ensure that thermal comfort is achieved, and solar gains moderated. This allows effective application of the mixed mode ventilation strategy, and efficient operation of the mechanical system.

As HVAC systems contribute to a large percentage of overall energy consumption in educational buildings, minimising this is a key principle in the design of Cranbrook School. To address this, the majority of the building is designed to provide the opportunity of mixed mode operation.

The use of waste heat reclaimed from the HVAC system to heat the pool and vice versa for the multipurpose building is being investigated to decrease energy consumption while maintaining comfort for occupants.

Materials
Robust and durable materials shall be selected on the project to ensure longevity whilst the following material selections will be considered to address the consumption of resources within the construction of the building:

- Minimisation of PVC throughout building services
- The use of sustainable timber (FSC timber products) wherever timber is used
- Reduction of non-reused or recycled content in the concrete mixes
- Post-consumer recycled content structural steelwork, reinforcement bars and mesh will be used.
- Low VOC materials will be used for flooring, paint, adhesives and sealants.
- Low formaldehyde emission engineered woods produces will be used throughout.
- All thermal insulants will be selected to avoid the use of ozone depleting substances in both there manufacture and composition.
- The building will aim to reduce to construction waste going to landfill by reducing or recycling building materials. Waste management during construction will ensure an 80% recycling rate during demolition and construction.

Water
The water strategy focuses on; reducing potable water through efficient fixtures and monitoring water use. In addition stormwater runoff from the site will be design to not negatively affect the surrounding habitats by utilising rain gardens or swales at edges.

Rainwater harvesting and reuse will be key to reducing potable water demand in Cranbrook School. A site wide strategy to water is proposed with the aim of a centralised tank to source non-potable water for cooling towers. This will be extended to toilet flushing for Cranbrook School. All fixtures and fittings will be within one star of the highest rating (5A) based on the Water Efficiency Labelling and Standards (WELS) scheme.

2.17 Landscape Design Strategy

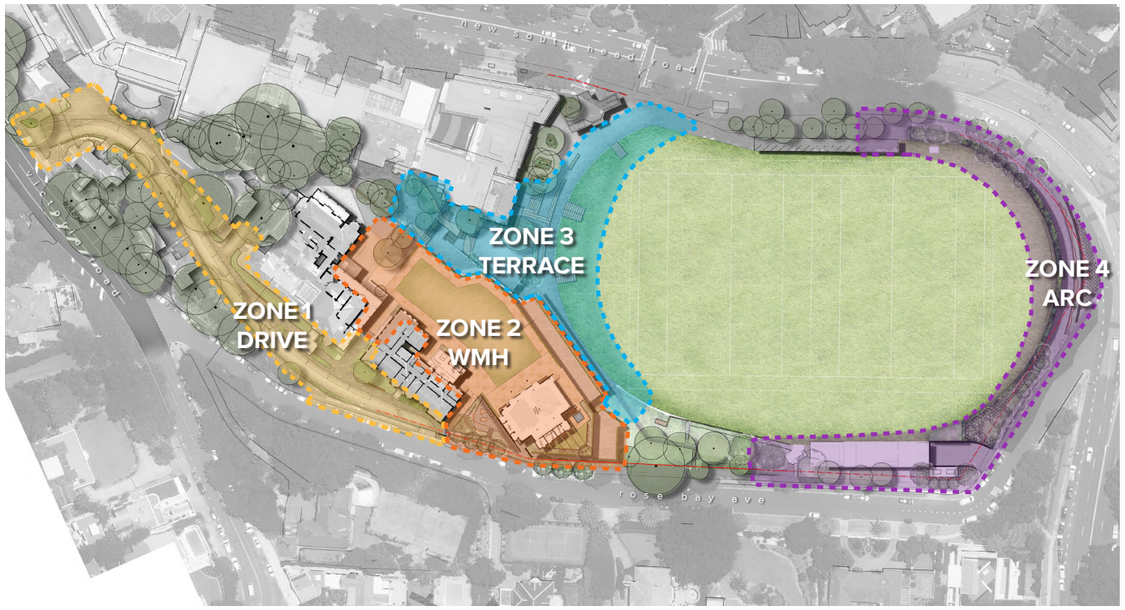
The Landscape design strategy is a direct response to the campus and to it's physical context, natural character, heritage and a response the architectural concept and built form.

The landscape design acutely considers the architectural concept and harmoniously integrates into the overall design of the development integrating the design and enhancing the on-site amenity. Architecturally the building is conceived as a serious of stepping sandstone formations terracing across the existing topology of the campus. The landscape reflects the flora and fauna of coastal typologies found around the Eastern Suburbs coastline.

Arcadia explored the interpretations of these zones through character, use, form and detail but perhaps most importantly, through repetition of material use, reinforcing the coastal significance to the School. Sydney's coastline and harbour represent one of the most beautiful and environmentally diverse attractions in the world and reiterate the schools intention to be a world leading school befitting of its location. The coast features cliffs, beaches and inlets of magnificent beauty unique to the region. The harbour offers iconic headlands, historic sites and national parks which are re interpreted within the school.

The sensitive design of the heritage lawn, introduction of reflective memorial gardens associated with The Chapel, large expansive teaching terraces and the reimagining of an extended Camellia Court, with a new planting strategy for Camellia trees, for the Centenary Building demonstrate the Landscape Design's response to the campus's natural environment, scenic value, and historical sensitivities.

The integration of the landscape strategy into the public plaza outside the Aquatic and Fitness Centre responds to the architecture and the site, whilst seeking to enhance public facing areas.



Landscape Zones

01

02

03

01 Teaching Street Terrace
02 Aquatic fitness centre facade
03 Centenary building Southern garden