



**ANGEL PLACE
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SYDNEY NSW 2000**

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Helen Mulcahy
Office of NSW Independent Planning Commission
Level 3, 201 Elizabeth Street Sydney NSW 2000

Dear Helen,

SANTA SOPHIA CATHOLIC COLLEGE SSD 9772 - APPLICANT SUBMISSION

This submission is prepared on behalf of Catholic Education Diocese of Parramatta (CEDP, the applicant) in relation to the State Significant Development application for Santa Sophia Catholic College (SSD 9772). This submission follows the Applicant's stakeholder meeting with the Independent Planning Commission (IPC) on 25 March 2020. In the stakeholder meeting, the applicant and the IPC discussed three key matters that we provide further detail on in this submission:

1. The deletion of Condition B1 – Design Amendments.
2. Balustrades and outdoor areas.
3. Urban tree canopy.

Further detail is provided in the sections below.

1. THE DELETION OF CONDITION B1 – DESIGN AMENDMENTS

In response to the IPC's questions regarding the proposed design amendments required by the draft conditions, and in addition to the "Open Space Information" document (attached) that was submitted to DPIE during the Request for Information stage of the SSDA, CEDP reiterates that the imposition of the condition will impact the school's operation.

- The proposed design amendments would reduce the operability of Santa Sophia Catholic College and negatively impact on learning and play outcomes for the students.
 - Reduction of the roof structure would limit the use of these areas for learning.
- All spaces in the current design have been carefully and purposefully designed to facilitate play and outdoor learning, as well as ensuring the provision of the required sun protection for the students. Especially given the location of the school in Box Hill, which experiences higher upper extreme temperatures than areas closer to the coast.
 - The current design will provide the school with the opportunity to operate across all hours of the school day, all months of the year and in all types of weather conditions.
 - CEDP's Design Principles & Guidelines reinforces the requirement for outdoor spaces with adequate weather protection so that they may be used throughout the year. This includes adequate shade and rain protection.

- The requested change contradicts the Department of Education & Communities guidelines for sun safety which prioritise shade in places where students congregate at recess and lunch, where outdoor learning takes place and for physical activities, and sport.
 - The use of dual-purpose areas for both play and learning are enhanced by provision of shade and shelter. The integration of external and internal environments allows for students to be connected to their surroundings and this can occur with the current design in a large spectrum of weather conditions.
- The updated daylight study that was submitted to the IPC ahead of the applicant briefing meeting on 24 March 2020 demonstrates that the current design already provides high levels of daylight to the outdoor decks throughout the school year.
 - The overall results indicate that the outdoor areas achieve approximately 80% spatial daylight autonomy (sDA), which demonstrates exemplar performance. For the areas raised as a concern by the DPIE on Levels 4 and 5, sDA levels of 85% plus are recorded for each season.
 - The proposed design amendments are unlikely to provide meaningful daylighting benefits, but rather increase exposure to rain, wind and direct solar.
- The horizontal arrangement of year groups coupled with the verticality of specialist spaces facilitate easy navigation. The position of year groups has been considered in line with CEDP's pedagogical model and referenced against timetabling to ensure adequate time to access specialist spaces.
- The use of the term "walkways decks" is inconsistent with the design of the school and the use of the space for not only circulation and mass movement but also play and learning. The external deck spaces connecting the internal learning environments maintain several uses and to define them as purely a walkway deck belies their multifaceted use and diminishes the importance of these external spaces to the functionality of Santa Sophia Catholic College.
- Inclusion of a retractable / openable roof to the fitness centre is not practical. There are reduced acoustic properties, less weather protection, increased maintenance cost, a structure that is prone to breakage and an operation that is unlikely to be used due to the restriction on staff operation only. CEDP have advised that an operable roof will always be in a closed position during school operation.

We therefore respectfully request that the IPC delete Condition B1 from the consent.

2. BALUSTRADES AND OUTDOOR AREAS

In response to the IPC panel's concerns regarding the school's design of the outdoor decks and the specific emphasis on the balustrades design, the following sections outline the careful considerations that the project team had undertaken to ensure the safety of the students.

2.1. BALUSTRADE DESIGN

The balustrades on the outdoor decks have been designed in compliance with DDA and CEDP's design standards and guidelines. A 1200mm balustrade height from finished floor level (AFFL) had been incorporated into the design, which is greater than the BCA regulations of 1000mm AFFL.

Through various safety in design sessions held by the project team, additional studies had been conducted and the following specifications have been implemented in order to optimise the design of the balustrades;

- Crowd loading of "C5" has been designed for all balustrades on the play area decks
- No toeholds exist greater than 10mm;
- All horizontal members of the balustrades have a minimum 1000mm height above any toehold.

2.2. OUTDOOR DECK DESIGN

Careful consideration of the safety of students has been undertaken by the design team in the distribution of the play areas across the decks. The current design allocates the active running and ball playing areas onto the ground floors and the basketball court. For all play equipment on the upper decks, there is a minimum distance of 2500mm from the nearest balustrade to ensure all necessary safety measures and fall zone requirements are adhered to with exception of the multi-level slide located on Level 2.

The slide is pertinent to all relevant safety guides and manufacturer's guidelines, including anti-climb and fall-zone measures at both the entrance at Level 2 and discharge zone at Level 1 to ensure student safety and wellbeing.

The design of the play areas has undergone a peer review by a playground certification consultant, CCEP, to reinforce the safety of the students in the design of the play areas.

2.3. CEDP OPERATIONAL MANAGEMENT STRATEGY

All play space areas on the outdoors decks will be supervised by staff during break periods. There will be no ball games on the outdoor decks that are adjacent to the balustrades, as they are only reserved for the play areas on ground floor and the basketball court.

3. URBAN TREE CANOPY

The IPC asked the applicant to explain the choice to include 14% tree canopy cover for the site. The applicant reiterates that it was a deliberate choice to allow maximum area for learning and play within the school site, noting the opportunity for canopy cover to be offset throughout the greater Gables precinct. The proposed tree canopy coverage is considered appropriate because:

- The expected tree canopy coverage for The Gables is 28%. The *Urban Tree Canopy Guide* (2018) suggests targets of 25% in urban residential areas (medium to high density and light commercial).
- The proposal is consistent with the GANSW's Design Guide for Schools as:
 - There is currently no natural environment, so the proposal is responding to the future landscape setting of the town centre.
 - The proposal includes tree planting and other planting that enhances opportunities for play and learning.
 - The proposal ensures landscaping improves the amenity within the school grounds.
 - The proposal integrates landscape, planting and Water Sensitive Urban Design (WSUD) principles to enhance amenity.
- On levels 0 and 1, where we have deep soil landscape zones and opportunities to instate canopy trees, the project team has determined that at 1pm in December (students' lunch play time), approximately 85% of the available play space is shaded. This considers all-weather deck areas and the anticipated shading that will be provided by the proposed tree planting at maturity.
- The *Landscape Review Project* document that has been prepared by Gallagher Studio for the NSW Department of Education dated 3/6/19 talks to the *Urban Tree Canopy Guide* (2018) and its relevance to the design of school landscapes. It acknowledges that the aim is to address urban heat and reduce local temperatures. Given that the aim of the urban tree canopy target is to reduce local temperatures and urban heat, the local context of the site needs to be considered. At present there are no existing trees on the site. The trees proposed need to be considered with respect to the trees proposed in the immediate context of the site i.e. Fontana Drive and the adjacent plaza.
- The *Landscape Review Project* surveyed 10 recently upgraded education projects and identified tree canopy coverage ranging between 14% and 26%. The only site that had proposed 40% tree canopy cover was Ballina High, which we note has a very different site context.
- The proposed canopy coverage has been calculated using industry experience to determine the expected mature canopy spreads and we have calculated the percentage coverage based on the approach identified in the *Urban Tree Canopy Guide*: 'A common method for determining the amount of urban tree canopy is to measure the area of canopy as a percentage of total land area.' This is an important consideration given that tree planting on the site is not solely for the benefit of the site itself; it also benefits the surrounding streetscape and in the case of the Santa Sophia College site also benefits the proposed plaza located to the south-east.



- The principles and recommendations made in the *Landscape Review Project* also state that the purposes of shade is to:
 - Increase shade provision in student landscape spaces.
 - Improve student health by cooling local microclimates and protecting from sun exposure.
 - Provide an appropriate proportion of summer shade and winter sun.

Based on the percentage of shade the project provides, these principles are being achieved without 40% canopy cover.

- Species selected have been conscious of maximising deep soil opportunities and canopy cover to allow for the necessary shade and greening requirements for the school environment.
- The project is consistent with the NSW Governments “Everyone Can Play: A Guideline to Create Inclusive Play Spaces”, which focuses on providing adequate shade structures to play spaces.

4. CONCLUSION

We trust that this information is sufficient for the IPC to finalise their assessment and make a favourable determination and to remove condition B1 Design Amendments.

Please do not hesitate to contact me on 0450 264 097 or aroff@urbis.com.au if you require any further information to assist with your assessment.

Yours sincerely,

A handwritten signature in blue ink that reads "Alaine Roff".

Alaine Roff
Associate Director