

An architectural rendering of a modern school building with brick and wood cladding, large windows, and balconies. In the foreground, there is a paved courtyard with a brick play area where several children are playing. A large tree stands in the center of the courtyard. The sky is blue with some clouds.

Upgrades to Chatswood Public School and Chatswood High School

Appendix 7 - Design Analysis Report

SSD 9483

Prepared by Architectus

For School Infrastructure NSW, Department of Education



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NSW Department of Education
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architectus™

State Significant Development Application - Design Analysis Report

Upgrades to Chatswood Public School and Chatswood High School

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Cover Image:
District views from Public School site

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	State Significant Development Application - Design Analysis Report	
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Image:
View of new Primary School Building P1+P2 from central play area.

01 Executive Summary

Executive Summary

The NSW Department of Education has a bold vision to be Australia's greatest education system and one of the finest in the world, creating the right conditions for all young Australians to be leaders and innovators of tomorrow's workforce. Schools Infrastructure NSW (SINSW) needs to support this growth in line with educational planning objectives and enable future-focused learning, by designing and developing schools that support the Department's evolving needs.

The Upgrades to Chatswood Public School and Chatswood High Schools re-imagines how this thriving learning community will grow and develop into the future. Upgrade of Chatswood Primary School and Chatswood High School proposes to increase student classrooms and facilities at both the existing Chatswood Public School (Pacific Highway site) and existing Chatswood High School (Centennial Avenue site) to support high-quality educational outcomes to over 3,200 students to address significant enrolment growth and meet the needs of students within the local community.

Purpose of Report

The purpose of the report is to provide an Architectural Design Statement to support the State Significant Development Application submission.

This report should be read in conjunction with the supporting consultants reports and the Environmental Impact Statement as prepared by DFP Planning.

This design report reflects the work undertaken within a multidisciplinary design team including the following disciplines:

- Architecture
- Landscape Architecture
- Education
- Structural Engineering
- Building services
- Façades Design
- ESD
- Fire engineering
- Geotechnical
- Civil engineering
- Traffic engineering
- Heritage, Archaeology and Aboriginal heritage
- Arborists
- Geotechnical
- Waste management

Plans, elevations and sections, area schedules and conceptual 3 dimensional renders have been developed in consultation with the relevant stakeholders including the Department of Education Project Reference Group, Technical Advisory Groups and Chatswood Public and High School.

Brief

The briefed areas of Chatswood Primary School and Chatswood High School generally follows the requirements of a CORE 35 school and 12 steam high school respectively with some deviations from the Education Facility Space Guidelines (EFSG).

The project includes refurbishment of some existing building on both site, as well as the provision of new facilities to support future focussed learning. Increased outdoor space is also an important factor of the brief.

SINSW acknowledges the existing enrolment pressures for Chatswood Public School due to the constraints on both sites. The project has considered a short term high occupancy scenario, however, it is understood that the longer term solution will be through an additional new public school within the local area, which is a commitment by the Government outside of this project.

Site Appreciation

Chatswood Public School (CPS) and Chatswood High School (CHS) are located on the Pacific Highway and Centennial Avenue respectively. Chatswood is an increasingly bustling urban district with significant projected growth.

The consultation process has revealed that the students have a great appreciation of the natural landscape, particularly the Centennial Avenue site. Students referenced the dappled light, being in nature and the value of real vegetation. There is an opportunity to celebrate the natural beauty across these campuses as per education strategy.

Both sites have significant constraints which have influenced the design response, existing including in-ground services, steep terrain, existing structures including heritage buildings, neighbouring scale and context, mature trees and existing landscape character and biodiversity corridors.

Pacific Hwy site includes two heritage buildings to be retained - Building A, Federation Arts and Crafts style building built in 1895 and Building B, Constructed in 1927-29. A site feature called The Lowers offer opportunity for new development.

Centennial Avenue site includes four buildings to be retained as part of the design; Building M, the newest building on campus is a three-storey building with a level of basement, Building H, highlighted as a noteworthy building in the brick brutalist style from mid-1970's, Building K, a two-storey building currently housing general learning, TAS and the art studios and Building J, the existing Hall with architectural character.

Design Response

Spread across two different site locations, the character for each is quite distinct. Each setting has its own unique features and context.

Pacific Highway – The City Campus

Being adjacent to Chatswood CBD, this site has a very urban context to its outer facing perimeter. The scale and articulation of surrounding buildings on Pacific Highway itself is civic and commercial. Within the site boundary itself, the existing heritage buildings soften and punctuate this urban scale with the introduction of brick and sandstone where a finer grain and human scale is more legible. Internally, the site has a calmer environment with significant district tree top views towards the national park. In this way, the Pacific Highway site has the character of “a school on a hill.”

Centennial Ave – The Bush Campus

Nestled into the gradually lowering terrain along Centennial Ave, this site is protected by a large number of mature trees and biodiversity corridors, giving it a natural bush setting around the majority of its perimeter, which is flanked on all sides by residential development of various scales. The landscape is a prominent influence on the Centennial Avenue site, where access to and views of green space create a natural learning environment for the students and teachers.

The architecture, interior design and outdoor spaces are designed and arranged in a variety of settings to encourage a range of social interactions and opportunities for learning that integrates with the context. In this way, the Centennial Avenue site has the character of “a school in the trees”.



Image:
Western views out to District from the Centennial Avenue High School Site.

02

Response to SEARS

SEARS Requirements (Architectural Design Statement)	
Key Issues	Response Location
4. Built Form & Urban Design	
Address the height, density, bulk and scale, setbacks and interface of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Address design quality and built form, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials and colours.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Provide details of any digital signage boards, including size, location and finishes.	Section 7 - Built Form & Urban Design Refer to Architectural Drawing Package
Clearly demonstrate how design quality will be achieved in accordance with <i>Schedule 4 Schools – Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities)</i> 2017 and the GANSW Design Guide for Schools.	Section 4 - Site Appreciation Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Provide detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development and having regard to the natural environment, including the existing vegetation on the site.	Section 4 - Site Appreciation
Provide a detailed site-wide landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation.	Section 6 - Concept Section 7 - Built Form & Urban Design Refer to Landscape Drawing Package
Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items.	Section 7 - Built Form & Urban Design
Address CPTED Principles.	Section 4 - Site Appreciation
Demonstrate good environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality

SEARS Requirements (Architectural Design Statement)	
Key Issues	Response Location
4. Built Form & Urban Design	
5. Environmental Amenity	
Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing and acoustic impacts.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Conduct a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development).	Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Identify any proposed use of the school outside of school hours (including weekends) and assess any resultant amenity impacts on environmentally sensitive areas, the immediate locality and proposed mitigation measures.	Section 4 - Site Appreciation
Detailed outline of the nature and extent of the intensification of use associated with the increased floor space, particularly in relation to the proposed increase in staff and student numbers.	Section 6 - Concept Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.	
Architectural Drawings (Dimensioned & including RLs)	Refer to Architectural & Landscape Drawing Package
Site Analysis Plan	Section 4 - Site Appreciation
Solar Diagrams	Section 4 - Site Appreciation Section 7 - Built Form & Urban Design
View Analysis/Photomontages, including from public vantage points	Section 7 - Built Form & Urban Design Section 9 - Facade & Materiality



Image:
Eastern view of new High School Building Q - links to existing buildings

03
Brief

Functional Design Brief Overview

SINSW commissioned SHAC for Phase 1 & Phase 2 of the project to prepare the Functional Design Brief (FDB) for the Upgrades to Chatswood Public School & Chatswood High School. The FDB captured the project requirements and outcomes of the initial design process early in the project.

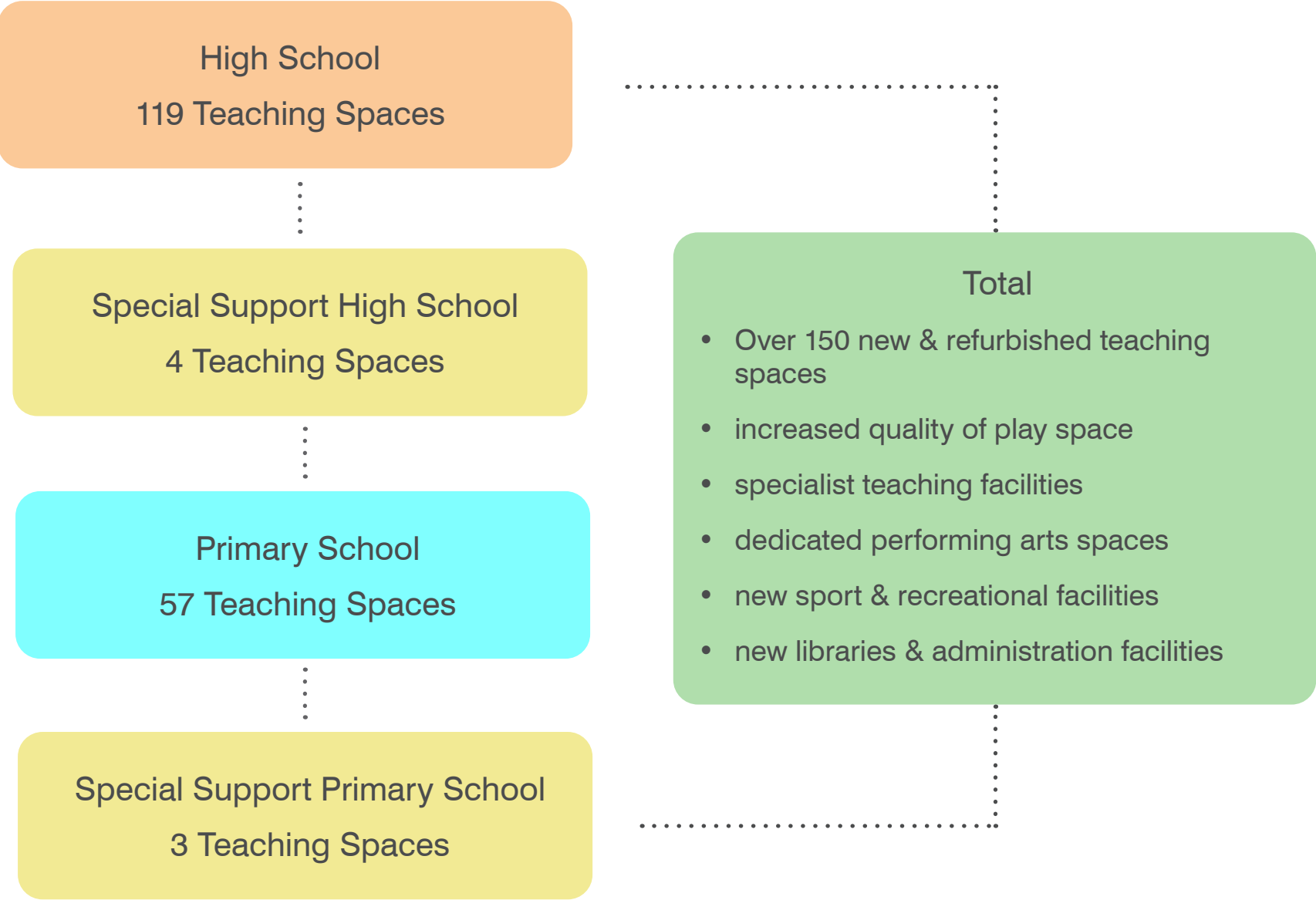
Architectus have been engaged to progress the initial design brief. A number of investigations were undertaken in conjunction with SINSW & Stakeholders to develop the design brief, scope and delivery for the project, allowing for Chatswood Public School and Chatswood High School to remain at their current locations, while revealing efficiencies and new opportunities for the Schools in their current context, including:

- Keeping the existing Centennial Avenue Hall (Building J) – to maintain functionality during Construction of the development.
- Reduced refurbishment requirement for the project.
- Increase of outdoor play space.
- Optimised Staging approach to reduce disruption and cost.
- The endorsed Brief for the project includes upgrades and new facilities for a Core 35 Primary School and a 12 Stream High School.

SINSW acknowledges the shortfall in proposed capacity for Chatswood Public School due to the constraints on both sites. The project can temporarily accommodate additional capacity, however, longer term solutions are currently being explored, including an additional public school within the local area, which is subject to further planning outside of this project. Increased capacity at Chatswood High School will be achieved.

The project overall maintains the requirements for provision of new facilities to support future focussed learning and will significantly improve the educational outcomes for both Schools.

Schools Redevelopment



Design Principles



History

Both sites have a rich history and cultural heritage extending through to colonial settlement and architectural expression.

We intend to respect the past and add to this lineage through appropriate integration between old and new architecture.

Landscape

The subjects sites are perched on high ground at chatswood, with distant district views.

Our approach is to integrate with existing terrain and follow the natural terracing where possible, by engaging indoor and outdoor learning spaces with the landscape where appropriate.

Connectivity

Enabling the ability to connect between buildings in interesting ways, which can support accessibility on both sites. We will also approach connection between both sites as an overall precinct and consider community access for appropriate spaces including, halls, playing fields and agreed functions within each site.

Diversity

This project offers a range of different learning environments. This coupled with the site specific landscape and existing building conditions provides opportunities to celebrating the diverse learning settings and express the building functions through “learning on display” strategies.



Image
View of Summit High School s/s from Centennial Avenue. School Oval pictured.

04 Site Appreciation

4 Site Appreciation

Contextual Analysis

Chatswood is a bustling urban district in the Lower North Shore of Sydney, ten kilometres north of the CBD. It is the business and administrative centre of the City of Willoughby.

Historically, the Lower North Shore area, including Chatswood, belonged to the Camaraigal clan of the Guringai language nation. This numerous and prominent indigenous group fished the coastal waters north of today's Sydney for approximately 50,000 years prior to European's arrival. This event was to be devastating to the Camaraigal population - the combination of displacement and smallpox meant that as early as 1830 there were no indigenous communities living a traditional life in the Willoughby area.

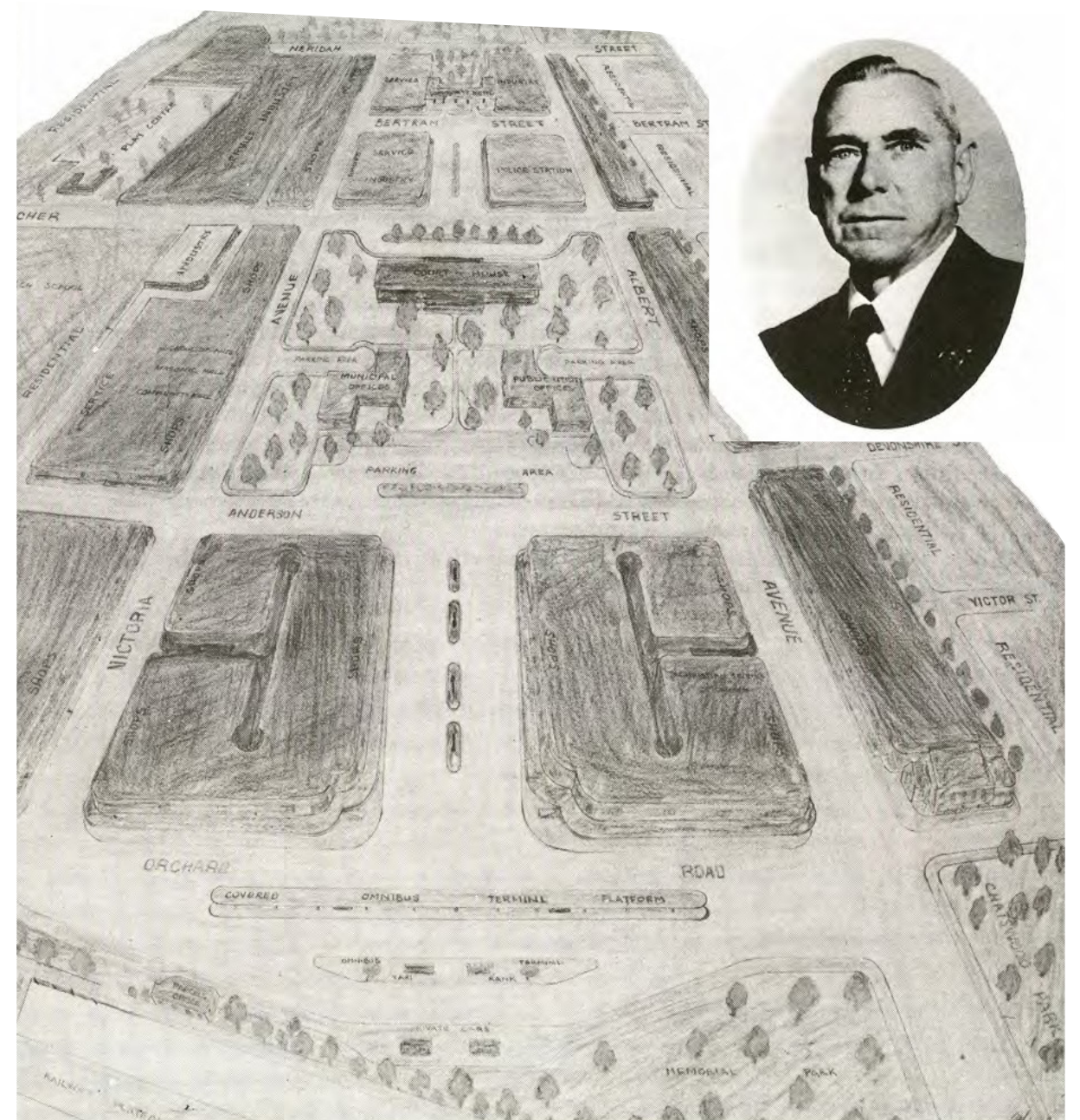
Chatswood's development as a European settlement was slow: the North Shore was seen as a rocky and barren frontier to the predominately British settlers. The eventual settlement of this region was in large part thanks to the expansion of the metropolitan railway to the north of Sydney in January 1880.

From slow beginnings, however, Chatswood has grown. Successive local governments in Willoughby instituted the Chatswood District Centre Plan in the 1950s (opposite), which saw the redefining of Chatswood as a satellite retail and commercial hub for Sydney. The development of a retail-focused CBD east of the railway line and commercial development to the west lead to the growth of high-rise residential developments in the 1990s. This availability of new housing encouraged a surge of migration, particularly from Asia.

Today, the district's population of approximately 25,000 is proudly diverse. In the 2016 Australian census, almost 70% of respondents put their place of birth as outside Australia. The most common countries of origin are China, South Korea, Hong Kong, India and Taiwan. 33.6% of people only spoke English at home.

The existing Chatswood Public School site is located on Lot C (D.P812207 – Title area 1.137ha) and Lot I (D.P346499 – Title area 1985sqm), bound by the Pacific Highway (the main address), Centennial Avenue and Jenkins Street in the suburb of Chatswood in New South Wales. To the east of the site, across the road of Pacific Highway is the Chatswood centre CBD. The northern site boundary adjoins single-story suburban fabric. The suburban fabric continues across Jenkins Street west of the site. To the south across Centennial Avenue are medium-density residential dwellings.

The existing Chatswood High School is located on Lot I (D.P725204 – Title area 5.973ha), bound by Centennial Avenue (the main address), DeVillers Avenue and Eddy Road, with additional site access from Oliver Road. Chatswood High School is located a short walk of 10m down Centennial Avenue from Chatswood Public School. The Chatswood High School is sit in a suburban residential setting around all boundaries.



Sources:
Willoughby District Historical Society: "Short History of Willoughby" [<http://willoughbydhs.org.au/>] (Accessed 7/12/18)
Australian Bureau of Statistics: "Chatswood (State Suburb) 2016." [<http://quickstats.censusdata.abs.gov.au/census/services/getproduct/census/2016/quickstat/SSC10892>] (Accessed 7/12/18)

Site Appreciation

1. Chatswood Schools

2. Chatswood CBD

3. Castle Cove

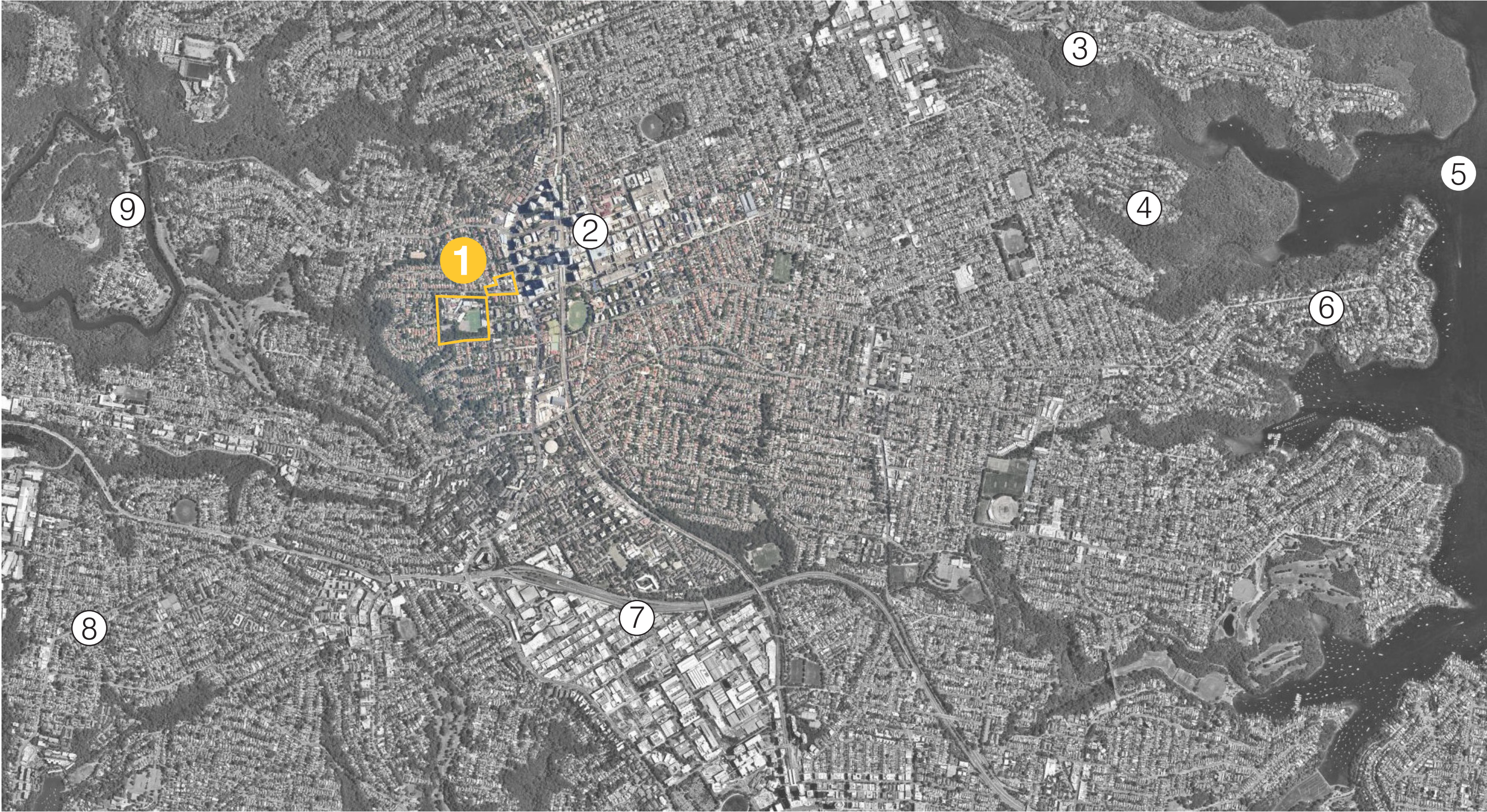
4. Fig Tree Cove
5. Middle Harbour

6. Castlecrag

7. North Sydney CBD

8. Lane Cove River
9. Lane Cove National Park

Inner North Sydney Context Map



Site Appreciation

Site Genealogy



Chatswood Public School

Chatswood High School

The Cammeraygal people occupied the area prior to European arrival

First European residential settlement of Chatswood (originally Chattie's Wood for the Mayor of Willoughby's wife Charlotte Harnett)

Chatswood PS first opened as a one-room weatherboard building on two areas of bush that is now 17 Findlay Ave, Roseville.

Site was occupied by eleven acres of bush and the property 'Marroombah', built by John de Villiers Lamb

A spike in enrolments following the opening of the North Shore rail line in 1890 incite the Department of Education to acquire the current site on Pacific Highway, previously an orchard. The new school opens in January of 1896.

As school occupation grew, so did the school itself, with the construction of several new wings. In 1912 the site was enlarged to provide more playground space.