MELROSE PARK HIGH SCHOOL

ADDRESS

37 HOPE STREET, MELROSE PARK NSW 2114

REF ARCHITECTURAL DESIGN REPORT

On behalf of School Infrastructure NSW for the NSW Department of Education

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ACKNOWLEDGEMENT OF COUNTRY

NBRS acknowledge the Wallumetta as the Traditional Custodians of the lands of Melrose Park area and their connections to land, sky, water and community.
We pay our respects to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander Peoples today

1.0 INTRODUCTION

This Melrose Park High School REF Architectural Design Report has been prepared by NBRS on behalf of the Department of Education (DoE) to assess the potential environmental impacts that could arise from the construction and use of the new Melrose Park High School project (the Activity) at Part 37 Hope street, Melrose Park. This report supports the assessment of the proposed Activity under Part 5 of the *Environmental Planning and Assessment Act 1979*. The Activity is proposed by the DoE to meet the growth in educational demand in the Melrose Park precinct.
This report has been prepared to support a Review of Environmental Factors (REF) for the proposed Melrose Park High School (the activity).].

2.0 PROPOSED ACTIVITY DESCRIPTION

SUMMARY OF THE ACTIVITY

The proposed activity involves the construction and use of a new high school in two stages for approximately 1,000 students.
Stage 1 of the proposed activity includes the following:
- Site preparation works.
- Construction of Block A – a six-storey (with additional roof/plant level) school building in the south-western portion of the site containing staff rooms and General Learning Spaces (GLS).
- Construction of Block B – a one storey (double height) hall, gymnasium, canteen and covered outdoor learning area (COLA) building in the south-eastern portion of the site.
- Construction of Block C – a single storey plant and storage building at the north-eastern portion of the site.
- Associated landscaping.
- Construction of on-site car parking.
- Provision and augmentation of services infrastructure.
- Associated public domain infrastructure works to support the school, including (but not limited to):
  - Provision of kiss and drop facilities along Wharf Road, and widening of the Wharf Road footpath.
  - Raised pedestrian crossings on Wharf Road and Hope Street.

Stage 2 of the proposed activity includes the following:
- Construction of Block D – a five-storey (with additional roof/plant level) school building in the north-western portion of the site containing staff rooms and GLS:
- Additional open play spaces within the terrace areas of Building D.
- Minor layout amendments to Block A.

The Review of Environmental Factors prepared by Ethos Urban provides a full description of the proposed works.

SITE DESCRIPTION

The site is located at 37 Hope Street, Melrose Park within the Parramatta LGA. The school covers an approximate area of 9,500m2 and is generally rectangular in shape. The site is currently cleared and vacant. The site is located approximately 8km east of the Parramatta CBD.

SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:
- • The extent and nature of potential impacts are low and will not have significant impact on the locality, community and/or the environment.
- Potential impacts can be appropriately mitigated or managed to ensure that there is no significant impact on the environment

3.0 REF REPORTING REQUIREMENTS (INCLUSION TBC)

Requirement	Y	N	N/A	Comments
General requirements				
Regulatory requirements Does the REF include:				
• a detailed response to the Design for Schools Guide?	☒	☐	☐	
• where relevant, a detailed response to any School Design Review Panel comments?	☒	☐	☐	
Plans Does the REF reasonably depict the proposed activity in figures, plans and/or photomontages including indicative details of: • overall layout? • maximum height and footprint of buildings? • elevational treatment of buildings? • tree planting and general landscape treatment?	☒	☐	☐	
Requirement	**Y**	**N**	**N/A**	**Comments**
Built form and urban design				
If the project has a value over $50M, has it been presented at School Design Review Panel (SDRP)?	☒	☐	☐	
If presented to SDRP, have comments from the Panel been: • summarised in the REF / Design Report?	☒	☐	☐	
• appropriately considered, incorporated into the design (where appropriate) and responded to in the REF / Architectural Design Report?	☒	☐	☐	
Does the Design Report: • explain how the proposed layout, building and facade design appropriately considers and respond to the existing / likely future / preferred character of the streetscape?	☒	☐	☐	
• address the design quality principles in the T&I SEPP and the design principles set out in the Design Guide for Schools?	☒	☐	☐	
• explain how the height of the proposed development is appropriate in consideration of the site context and form of surrounding development?	☒	☐	☐	

Requirement	Y	N	N/A	Comments
Environmental amenity				
Overshadowing Does the REF:	☐	☐	☐	
• include shadow diagrams?	☒	☐	☐	
• discuss impacts from overshadowing impacts?	☒	☐	☐	
• conclude that the proposal would have no significant impacts?	☒	☐	☐	
• if the proposal results in overshadowing of windows or private open space of residential properties, does the REF demonstrate maintenance of at least two hours of daylight as required by the Apartment Design Guide or otherwise in accordance with the applicable Planning principles?	☐	☒	☐	
Privacy Does the REF consider potential privacy impacts of the proposed works and conclude that these would not be likely to result in significant effects with or without mitigation measures?	☒	☐	☐	
Visual impacts Does the REF assess potential visual impacts of the proposed works and conclude that impacts would not be significant with or without mitigation measures?	☒	☐	☐	
Visual impacts (view sharing) – private views If the activity has the potential to obstruct existing significant views from private property, does the REF include an assessment of the proposal in accordance with the Tenacity Principles including as assessment of the: • type of views affected; • parts of the property the views are obtained; • extent of the impact; and • reasonableness of the proposal causing the impact?	☐	☐	☒	
Does the assessment conclude overall, that the proposal would not be likely to result in significant environmental effects?	☐	☐	☒	
Visual impacts (view sharing) – public views If the activity has the potential to obstruct existing significant views from public land, does the REF include an assessment in accordance with the established planning principles (i.e. principles established by the Land and Environment Court in Rose Bay Marina Pty Limited v Woollahra Municipal Council and anor [2013] NSWLEC 1046 (principles of view sharing: the impact on the public domain), including: • an assessment of: ○ nature and scope of the existing views from public domain; ○ locations in the public domain from which potentially interrupted view is enjoyed ○ extent of the obstruction at each relevant location; ○ intensity of public use of those locations where that enjoyment will be obscured, in whole or in part, by the proposed activity; ○ whether there is any document that identifies the importance of the view to be assessed; and • a quantitative and qualitative evaluation of the impacts?	☐	☐	☒	
Does the REF list any mitigation measures identified in the above assessments and incorporate them into the design where applicable?	☐	☐	☒	
Requirement	**Y**	**N**	**N/A**	**Comments**
Trees and landscaping				
Has an Aboricultural Impact Assessment (AIA) been prepared to support the REF which assesses existing trees within the proposed works area, including street trees, and recommends tree protection measures for trees to be retained?	☒	☐	☐	
Does the REF discuss the number, species, pot sizes and height of trees to be removed and trees to be planted?	☒	☐	☐	
Have any tree protection measures set out in the AIA been incorporated in: • the design; • REF mitigation measures; and • the preliminary construction methodology?	☒	☐	☐	
Signs				
Does the REF include: an assessment of the proposed signs against the Chapter 3 Advertising and Signage, under SEPP (Industry and Employment) 2021a site plan and elevations of any proposed signs that clearly depict the location, type, content and appearance of any proposed signs that form part of the REF activity?	☒	☐	☐	Content shown indicatively only. School name and signage content to be confirm in the next stages.

4.0 CONSULTATIONS

4.1 SDRP CONSULTATION 28th September 2024

Consultation with SDRP was conducted on 28th September 2024. The project was generally well received, with following elements of the Masterplan supported:

- The early engagement with local knowledge holders and the walk on Country, which provide strong foundation for the Connecting with Country response
- The masterplan design that respects and draws from its context, creating relationships with the playing fielsds to the north, the low density areas to the east , and the high -density areas to the west.
- - The intention to provide spaces within the school boundary that can be accessed and shared with the community.
- The inclusion of a rooftop garden to create additional open spaces for the Students in Stage 2.
- Early engagement with SDRP, enabling meaningful contributions to the design.

The following table outlines the responses to the advice and feedback received from the Government Architects Office.

	SDRP Comment	Project Support (Y/ N/ (P)artial)	SINSW Response
	Connecting With Country		
1.	Integrate the outcomes of the engagement process with the Aboriginal knowledge holders into the design of the masterplan, built form and landscape	Y	The project team will integrate the outcomes of the engagement with Aboriginal knowledge holders into the design of the masterplan, built form and landscape through continued engagement with local knowledge holders through the Connecting With Country process. Currently the team has walked on Country and held workshops to understand the key aspects important to the local area. These have been integrated into the design through references in the selected façade and landscape elements.
2.	Explore opportunities to respond to traditional patterns and modes of habitation and embed Country in the project beyond references to colours and forms of landscape, flora and fauna.	Y	The project will continue to explore opportunities to respond to traditional patterns and modes of habitation and embed Country in the project beyond references to colours forms of landscape, flora and fauna by identifying areas in the design where interpretation of the Connecting with Country workshops can be incorporated. Opportunities to be explored in future design phases may include the following items as an example: graphic design components for wayfinding; artwork relating to the Country of the specific site; use of local Aboriginal language for naming and educational purposes.
3.	Refer to the Connecting with Country framework and case studies on the GANSW website for information and guidance	Y	The project will continue to refer to the Connecting with Country framework and case studies on the GANSW website for information and guidance. The information and guidance will be used to form appropriate design responses, responding to items 1 and 2.
	Site Strategy and Landscape		
	Despite the restricted size of the site, there are opportunities to create more permeability and porosity in the design, fostering a more inviting environment and creating more value for the precinct and community.	P	The design team has considered the SDRP's comment on the porosity and permeability of the design to foster a more inviting environment and creating more value for the precinct and community. It is noted by the design team that the school design must adhere to the s requirements of the Educational Facilities Standards and Guidelines (EFSG), and School Design Guidelines (SDG). These guidelines have been developed to provide the best educational and safety outcomes possible for students. Adhering to these guidelines restricts the design's capacity to include permeability and porosity however, the design team is considering: - main school entry points open as civic spaces; - secondary entry into the hall directly from a civic space; - shared use of key school buildings and facilities with the Council and community; and - utilising the building facades as the secure line to reduce harsh fence lines where operationally possible SINSW and educational leadership teams are liaising with stakeholders including Parramatta Council regarding shared use agreements for community use of certain school elements such as the hall and sports courts which will create the future value or the broader precinct and community, and are being incorporated into the design. The entry points are being considered with fence lines moved away from the street frontage to generate an open and inviting space that can also be utilised outside of school hours.
4.	Explore opportunities to soften the hard edges of the standardised building blocks by introducing more nuanced and richer edge conditions where appropriate, for example, along the entry to enhance the arrival experience.	P	The design team has considered the opportunities to soften the hard edges of the standardised building blocks with the incorporation of landscaping between the building façade and the fence line at the site boundary. Additionally, in response to the enhancement of the arrival experience, fence lines have been reviewed and at the two main entry points the fence line has been adjusted with the building façade acting as the secure line. This has provided a more open and welcoming plaza type area at the main entrance to the school and the secondary entrance at the hall.
5.	Provide a variety of spaces within the landscaping to cater to different types of uses and group sizes, including intimate areas for small groups as well as larger spaces for bigger gatherings. Consider the various needs of boys and girls when designing when designing outdoor spaces for gathering and active play.	Y	The current landscape design has considered a variety of spaces within the landscaping to cater to the different types of use by different group sizes and groups of differing make ups. Areas have been developed to consider space for small groups having spaces to sit under trees or the grassed area as well as spaces for games to be played with the sports courts located to the northern edge of the site. This location allows the perception of space between the zones but also locates it in proximity to the Council playing fields which will be shared by the school.
6. 6.a. 6.b.	Minimise the extent of perimeter fencing. Where possible use the building itself as a secure line to: 6a. Limit the negative visual and physical impact of fencing on the public domain and streetscape. 6b. Create opportunities for the landscaped area within the setbacks along the western boundary to be shared with the community, fostering a sense of openness and inclusivity an creating a generous moment of relief within the dense masterplan	P	The design team has worked with the School Security Unit to rationalise and minimise the extent of perimeter fencing around the site using the building façade as the secure line where possible. This has been targeted at areas where people will gather. The school's main entrance and the public entrance to the hall building have been identified as the most appropriate locations to incorporate this. This will limit the visual impact on the public domain and create inviting areas at the key locations on the site. The team has considered opportunities for landscaped areas within the setbacks to be shared with the community and as noted above focussed this on the entries to the school rather than on other boundaries. Fence alignment changes along the boundaries introduce difficulties in the maintenance of the school grounds and moves away from the security requirements of the educational facility.

7. 7.a. 7.b.	Enhance the engagement of the masterplan with open areas outside the project boundary. This can be achieved by: 7a. Incorporating the reserve into the design to achieve more cohesion in the ground plane and to enable potential future use by the school. 7b. Engaging with the playing fields to the north to better integrate the school with recreational uses in the surrounding area.	N	The project team has considered how the design could enhance the engagement of the masterplan with the open areas outside the project boundary. However, the project team notes that these are zoned as public open space and are to be dedicated to Council. Incorporating the Wharf Road Gardens into the design would require the removal of the secure fence from the design along the eastern frontage. Wharf Road Gardens also includes the main cycling path in the area, which poses safety risks for students and the community if shared use is sought. From school operations, school security, and student safety perspectives this is not operationally suitable and is also unlikely to be supported by Council. The playing fields to the north and the design of Wharf Road Gardens are being developed externally to the project and subject to a separate DA which is under assessment, and will be delivered by the developer under a local planning agreement with Parramatta Council. The open space DA falls outside of the project scope A joint use agreement is being discussed between SINSW and Parramatta Council for shared use of the playing fields, and comments have been provided to Council on the playing field and Wharf Road Gardens DA to provide a positive relationship and appropriate connections with the school. .
	Architecture		
8. 8.a. 8.b.	The proposal includes 5 and 6 storey buildings which present unique challenges to the design. It is essential to ensure that all students have access to outdoor areas during the day to support their health and well-being. This can be achieved by: 8a. Widening the covered walkways locally to create breakout spaces, providing visual and spatial relief along otherwise monotonous walkways and supporting incidental gatherings. 8b. Incorporating larger open spaces within the building envelope and introduce meaningful variation to make the building more attractive and reflective of the diverse program and rich patterns of use.	N	The project team and School Infrastructure NSW acknowledge that it is essential for students to have access to open play spaces. Roof top play areas for break out are incorporated in the design for the future stage two and ground floor spaces are considered in the design; pedagogy and educator feedback supports this arrangement. Introduction of local widening of covered walkway will increase dimension and structural complexity, adding costs that could otherwise be directed to teaching spaces, and cannot be accommodated within the project. Similarly, the introduction of open spaces within the building envelope will compromise the available space for learning areas, introduces additional operational and supervision burdens on school staff, and cannot be accommodated within the project.
9.	Explore opportunities to create smaller learning communities within the school to help minimise excessive movement through the building and foster a sense of belonging and community among students.	N	The exploration of opportunities to create smaller learning communities within the school to minimise movements is considered to be outside the scope of the design review which is focussed on the masterplan and urban response. The school is adopting standardised design approach with spatial relationships, movement and learning communities that are result of a detailed process of research and engagement to provide consistent provision of fit for purpose contemporary learning environments in NSW public schools. This standardised design approach also considers application in an urban multi-storey context. No further response is required to this item.
10.	Consider co-locating specialised learning hubs with community facilities. For example, positioning the food learning hub near the canteen and the hall to facilitate their shared use and enhance the functionality of these spaces.	N	Consideration of the location of internal spaces and utilities such as the canteen's position in relation to the food learning hub is considered to be outside the scope of the design review which is focused on the masterplan and urban response. Addtionally the project team notes that this suggestion is contrary to the standardised design approach, and due to the impost of a site constrained by size, this is generally not feasible.
	Sustainability and Climate Change		
11.	Ensure the proposed sustainability initiatives align with the principles of Caring for Country.	Y	Throughout the landscape design the project has aligned with Caring for Country principles and considers the ongoing management of Country by prioritising the use of endemic and native plant species ensuring they reflect the local flora and cultural significance of the area. This ensures that plants with traditional uses and which honour the cultural heritage of the site are included. Additionally, the inclusion of principles such as passive irrigation are being considered in the landscape through the use of permeable surfaces. Caring for Country is also being considered through the incorporation of passive ESD design such as designing to respond to the effects of climate change, designing energy efficient buildings and reducing the impacts of urban heat island effect.
12.	Explore opportunities to incorporate biophilic design into the school to improve students' connection to nature with meaningful planting incorporated in building designs and views to green spaces.	P	The project has explored opportunities to incorporate biophilic design to improve students' connection to nature through the use of meaningful planting as described in the response to Caring for Country. Views to green spaces are incorporated where possible with all external walkways having views the central play space areas which includes trees and planting.
13.	Evaluate the buildability of the stage 2 building and consider relocating the ground level uses to prevent potentially abortive works and to ensure an efficient construction process.	Y	The project team and SINSW more broadly have been considering the buildability of the stage 2 area and this has been under ongoing development. The design presented at the SDRP considered building overhead and has designed for the future structure to be included in stage 1 to allow the use of the spaces immediately after groundworks and level one deck has been completed. This has progressed and amenities that can be moved from the area have been relocated to other zones to improve the efficiency of the future construction and enhance overall student safety. The final outcomes of the design and proposed methodology will be captured in the staging report submitted in line with any planning approvals.
14.	Illustrate how the project will contribute to NSW Net Zero emissions goal by 2050. Refer DPIE Net Zero Plan Stage 1: 2020-2030 for further information.	Y	The design is contributing to the NSW Net Zero emissions goals with the building being designed to be fully electric, powered fully by onsite renewable energy and purchased renewable energy. Use of gasses in laboratory and emergency uses is working to be less than1% of the total annual energy consumption for the site and SINSW has committed to offsets for the first five years of operation.

4.2 CONSULTATION WITH COUNCIL

Consultation with the council took place on 27th November 2027 and was generally well received. The following comments were made, with the design team's responses provided in the table below:

	Council Comment	Response	Action
Bridge'	Please make this bridge a lightweight structure and if possible, not provide on Level 1, only on Levels 2 and above. While we understand this is more relevant to Stage 2, the structure to receive the bridge will be built in to receive it on Stage 1.	1. A lightweight bridge would require deeper beams, and make the structure look bulkier. 2. If bridge would be deleted on level 1 , then additional stair would be required which would reduce open play space on GF. 2. Majority of administration is located on Level 1 and ease of access is important for staff and students. 3. Lift services on all levels are positioned central and constructed in stage 1 to service both stages. 4. Balustrades along the bridge are required to reduce wind impact. The balustrades require max. 30% free area to 1.3m min height. The perforated metal balustrade could be replaced with a glazed balustrade. This would require special approval from SINSW.	SINSW to confirm if glazed balustrades are to be implemented.
Internal landscape proposal - peripherial trees	Council officers support the dominant arrangement of peripheral trees in the 6m setbacks on the southern and western boundaries. Suggest that these be specified as large tree species capable of reaching a mature height of 18+ metres.	We acknowledge and support the council's recommendation for large tree species in the 6m setbacks along the southern and western boundaries. Mature trees that will grow 18m+ have been specified.	
Internal landscape proposal - landscape layout	The wavy internal landscape layout (paving, planters and turf) is not convincing in design, legibly functional in terms of daily school activity, or easy to construct well. Suggest that this design needs a strong and clear rationale from a design, functionality and constructability point of view.	We also appreciate the feedback regarding the internal landscape design and will refine it to ensure greater legibility, functionality, and constructability. The edges could be simplified to improve durability and ease of construction but design intent of the ground plane will be maintained. Below is a photo of a similar approach showing different colour concrete layout delivered in a recent school. The design ties back to mangroves Connecting with Country design. 	
Internal landscape proposal - plaground trees	The open playground space offers a very rare opportunity to plant prominent, large and beautiful specimen trees or tree groups providing shade, amenity and commensurate scale compared to this and surrounding developments. The design however indicates lots of very small trees. Recommend this be reviewed.	We have specified tree species such us Angophoras and variety of Eucalyptus (crebra, nicholii, saligna) that will grow large and will provide shade. These have been complemented with other species to create groups. The circles in the plan are indicative and do not reflect the final size.	
Internal landscape proposal - permiable paving	There is insufficient detail to fully understand proposed finishes. Council officers have not been able to identify where the higher quality permeable stone paving is proposed.	The permeable paving concept will be further developed in design development phase and will be closely associated with the trees in the courtyard.	
Internal landscape proposal - sports courts and car park -	The provision of the outdoor sport courts and car park collocated adjacent the playing field is supported. It's imperative that the school's design facilitates easy access between the outdoor sports courts and the playing field. The joint use areas of the outdoor sports courts and car park should be capable of being fenced off from the rest of the school so that the public can use them freely outside of school hours.	The joint use agreements are separate negotiation process. Design is capable of providing this separation as shown below. Option 1: Fence in blue. Option 2: Add gates to the bottom of the stair (pink) Option 1  Option 2 	SINSW to have separate joint use discussions with Council

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5.0 PROJECT CONTEXT

Melrose Park High School is a new, small high school designed to accommodate 1,000 mainstream students, approximately 67 full-time staff, and 12 support staff. The school will be developed in stages, with Stage 1 designed for 560 students, 44 full-time staff, and 8 support staff. Located in the Parramatta local government area, the school will occupy Lot 201 in DP1265603 (soon to be Lot 9 in DP1310509), covering a 9,916 sqm site. The site is bordered by Hope Street, Wharf Road, and a future road on the west side, which is yet to be constructed. The northern boundary of the site will adjoin a communal sports field that will also be used by the school.
The high school facilities will be based on SINSW's standard hub layout designs and have been registered to achieve 5-star-GBCA Green Star rating.

The school will deliver facilities consistent with Department of Education Educational Facilities and Standards Guidelines (EFSG) including core facilities such as administration, Gym, general learning spaces, support learning spaces, and all specialist facilities including additional learning units, domestic kitchen, textiles, science, wood and metal, performing arts, Helt &PE and Visual arts. The school will also include a variety of outdoor spaces including courts, COLAs, and outdoor learning areas.
Project objectives apply to Melrose Park High School:

- To provide a high-quality learning environment.
- To create welcoming facilities which prioritise the care and well-being of the school community.
- To ensure the school responds to the historical context of the site and the cultural knowledge of the traditional custodians of the land thus providing spaces and design aspects that reflect the cultural context.
- To create agile and responsive places and use biophilic design principles, be accessible and welcoming, and respond to the urban fabric of the neighbourhood that will be a source of joy and pride to staff, students, and the local community.
- To consider positioning, massing, bulk, and scale of buildings to respond to the urban and environmental context.

Design to enable staged construction.

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5.1 SITE CONTEXT

SITE OVERVIEW

The Melrose Park High School project is located in the Melrose Park North Precinct within the City of Parramatta, New South Wales. The site at the corner of Wharf road and Hope street, Melrose Park, is intended to serve a rapidly developing urban renewal area. This precinct is undergoing significant transformation, featuring planned high-density residential developments, a new town centre, and various public amenities. The school's development aligns with broader urban renewal and infrastructure improvements in the area.

SITE HISTORY

Melrose Park High School is situated on Wallumetta, the name given by the Wallumedagal clan, the traditional owners of the land. After European settlement in January 1788, the land that is now called Melrose Park, was given as a grant to 2 ex-marines: John Colethread and Isaac Archer. Eventually, the land was acquired by Major Edmund Lockyer, who constructed 'Ermington House' in 1828. Notably, this house had driveways to the public road now called Wharf Road and to the wharf on Parramatta River.

The wharf was an important link from the west to Sydney, especially regarding the economic vitality of the colony. It serviced the government sawyers' establishment at Pennant Hills and was used to transport produce to markets in Sydney. By 1926, 'City Mutual Life Assurance Society Limited' bought the Ermington House property and its surroundings before demolishing it and then subdividing the land in 1929 to make way for a satellite town that included a gold course. The plan for the Golf Links Estate in 1929 was said to be, 'the birth of a new suburb.' In 1944, the Wallumetta Infants' School was established to educate children on the Estate. Following the theme of honouring aviators by naming the streets after flyers, in 1947, the area was named Melrose Park to honour Charles James Melrose, the first person to make a nonstop flight from Adelaide to Tasmania. This in turn contributed to the renaming of the primary school to 'Melrose Park Public School' in the same year.

Since 2016, Melrose Park is undergoing a redevelopment from an industrial to a sustainable residential, commercial and retail hub. This is part of the plans by the City of Parramatta Council.

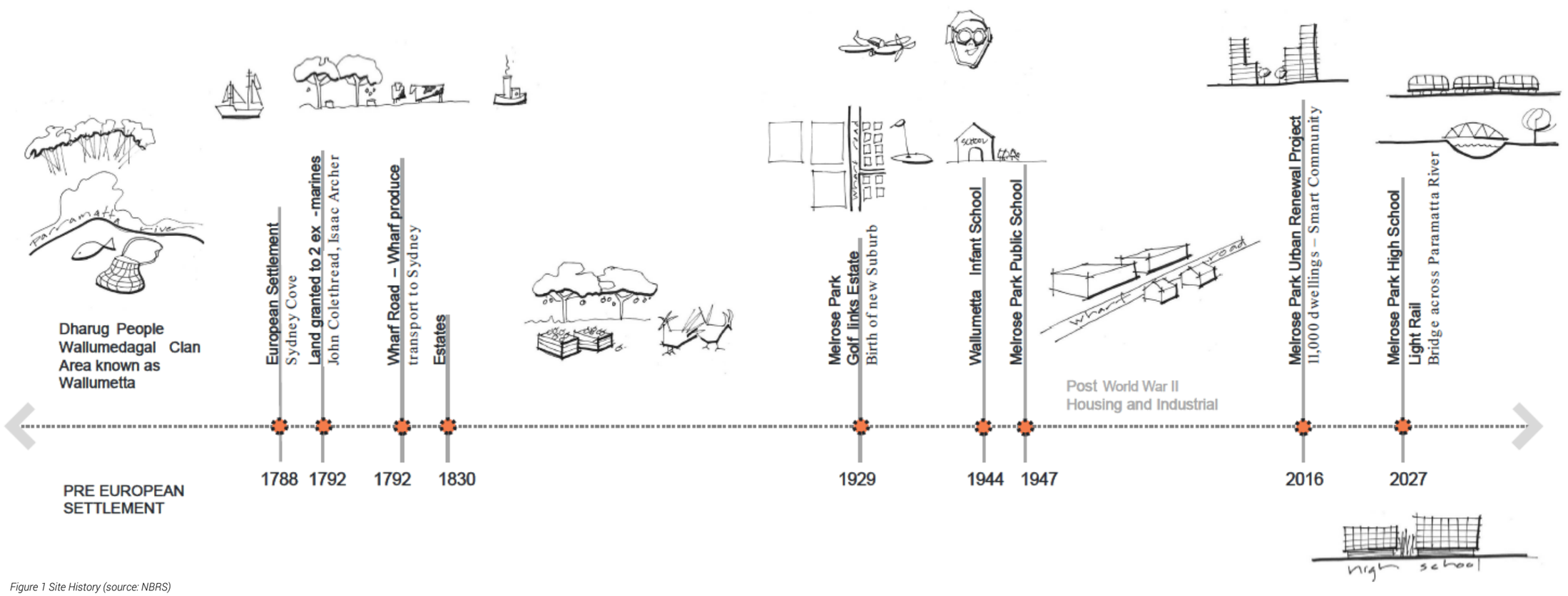

Figure 1 Site History (source: NBRS)

SITE LOCATION SUMMARY

Address: Part 37 Hope street, Melrose Park Street (Lot 9 DP 1310509)
Land size: approx 0.99ha
LGA: Parramatta Council
DCP: Melrose Park North Development Control Plan

The Melrose Park High School site within Paramatta LGA is approx. 14km west of Sydney CBD and 33km East of the new Western Sydney Airport and 16km Northwest of Sydney Kingsford Smith Airport.

• Melrose Park Primary school is approx. 60m away to the south, separated by New High school site by Hope Street and existing industrial development.

The site is part of new Melrose Park North Precinct, addressed in Parramatta DCP. The precinct is progressively developing with a proposed new Town Centre, new open public spaces, playing fields and the proposed high school site located to the east along Wharf Street which separates City of Parramatta and City of Ryde Council.

• Wharf Road Gardens - a linear parkland corridor immediately to the east includes shared pedestrian links and cycle pathways

• There is R2 Low Residential Property on the opposite side of Wharf Road within City of Ryde LGA.

• Existing traffic calming measures will require upgrading.

• The Parramatta Light Rail Stage 2 will connect immediately to the western lower side of the site, this will also create a new bridge access to the South across Parramatta River.

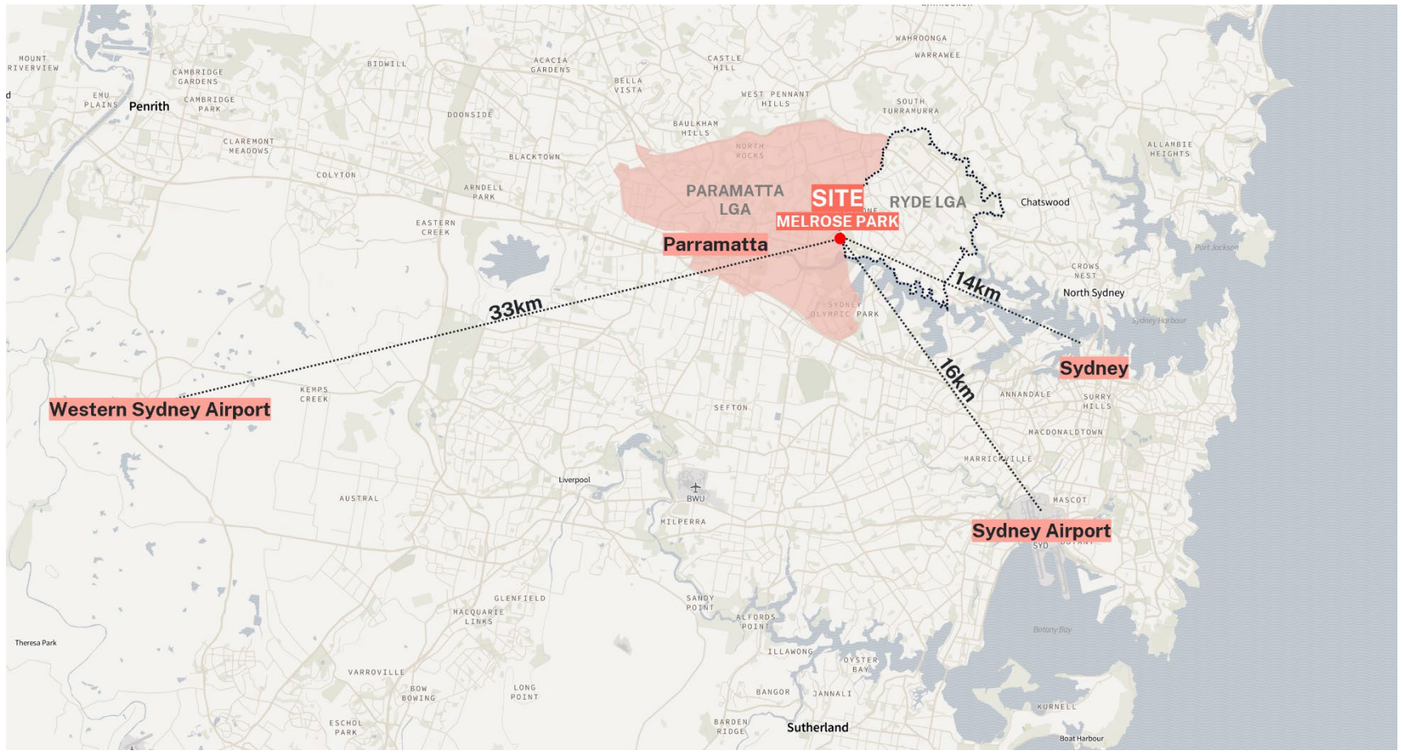

Figure 2: Site Location (Source: NBRS)

SCHOOL CATCHMENT AREA

Ryde Secondary SCG

The school catchment area is defined by boundary lines which are subject to adjustment in response to population growth, the evolving development in the neighbouring community and the availability of another public school in the area.

As of 17/01/2024, the current catchment boundary is restricted to:
Along Stewart Street and Rutledge Street to the north
Along Brush Road, Ryde Parramatta Golf Club and Archer Creek to the east
Along Parramatta River to the south
Along Silverwater Road to the west

A new high school will help accommodate the demand generated by the Melrose Park North Precinct (6,000 dwellings in short-term development) and the Melrose Park South Precinct (5,000 dwellings in long-term development). Approximately 50% of this demand is accounted for in SbA projections, which are based on Common Planning Assumptions, while the remaining demand is evaluated through Place-Based Analysis (PBA). The intake areas shown in the option presented in Figure 9 are indicative and have been applied solely for service need analysis purposes

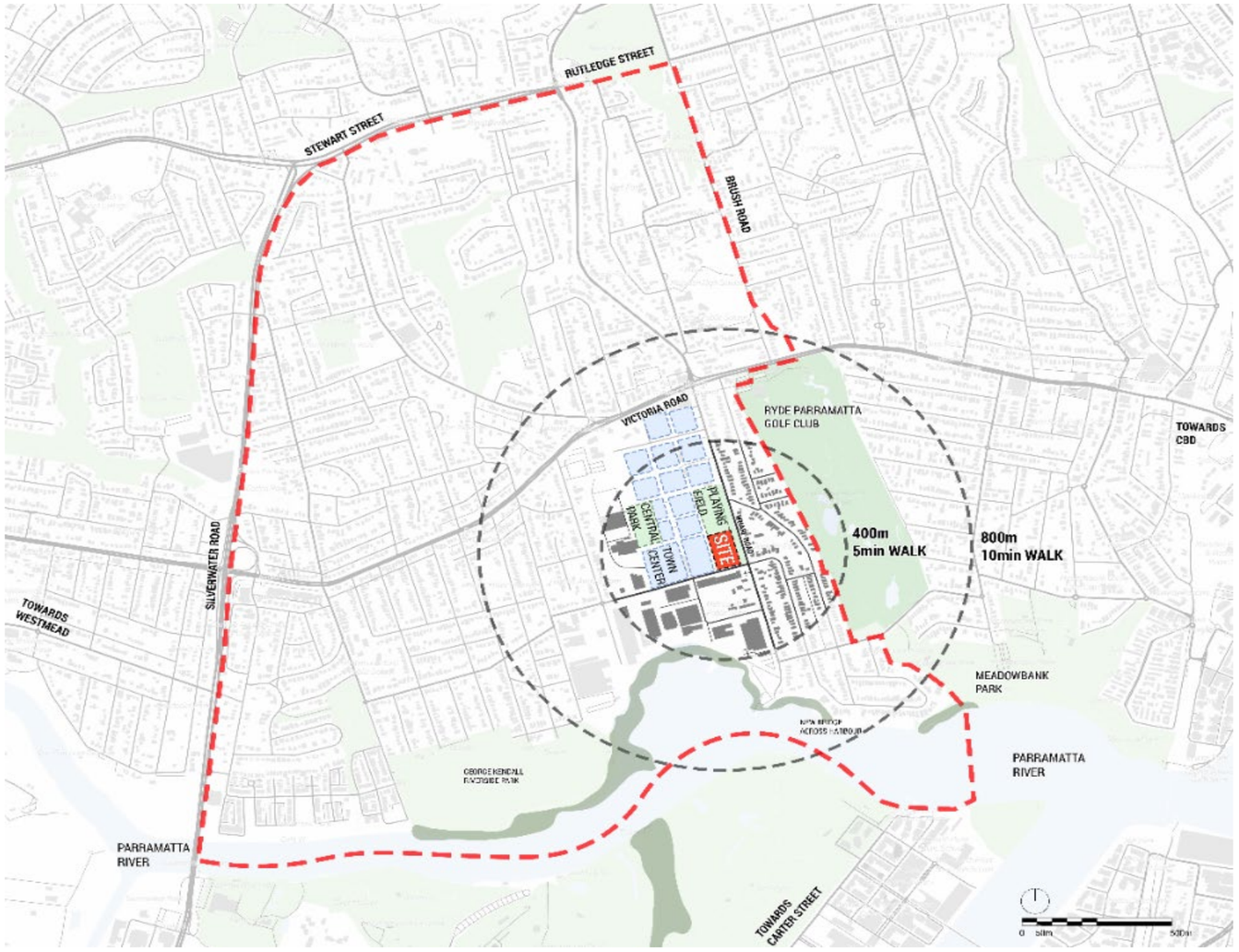

Figure 3: School catchment area (Source:NBRS)

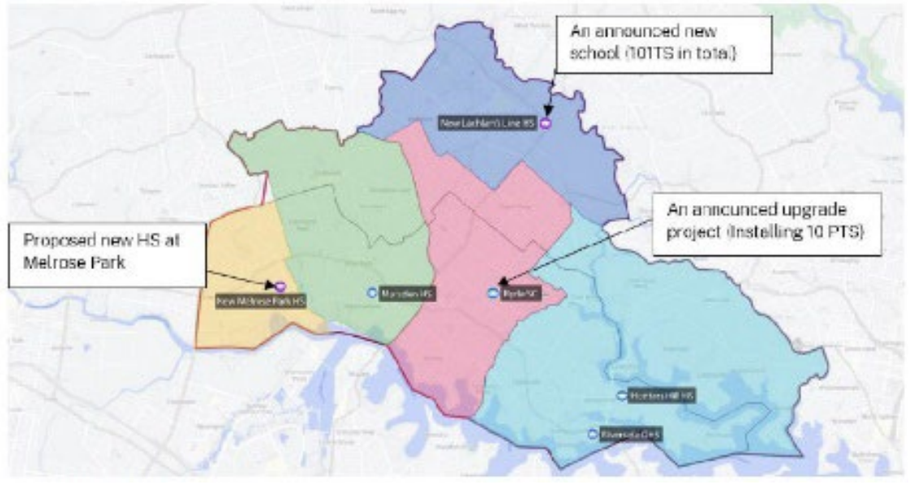

Figure 4: Indicative Intake Area (Source: SINSW Service Planning, 2023)

LOCAL CONTEXT

The site is situated within a dynamic and evolving precinct, surrounded by:

- North: bordering onto Public recreation lands comprising of Communal Playing fields that the school will be using, and wetlands park. R4 High density residential developments are positioned further north.
- West: New road and R4 high rise developments up to 24 storeys and E1 New Melrose Park Town centre.
- South: Hope street and existing industrial development.
- East: Landscaped reserve and low-density residential developments along Wharf Road.

The surrounding area compromises mainly of R2 Low Residential Property and E4 Environmental Living. Other areas of Melrose Park North Precinct are being developed with a new Town Centre, new open public spaces and playing fields being planned. The new town centre located west of the would provide a broad range of market, retail, social, health, and entertainment facilities for the neighborhood. To the north lies Communal Sports field that will be used by the school.

Wharf Road Gardens - a linear parkland corridor is positioned immediately to the east and includes shared pedestrian links and cycle pathways.

Future Light rail will be connecting the precinct with CBD and Paramatta.

Figure 7: Future development - Melrose Park Precinct North (Source: AJC)

Figure 6: Wharf road Gardens highlighted in green and Site

Figure 5: Examples of proposed residential development precinct North (Source: Sekisui House)

PLANNING CONTROLS

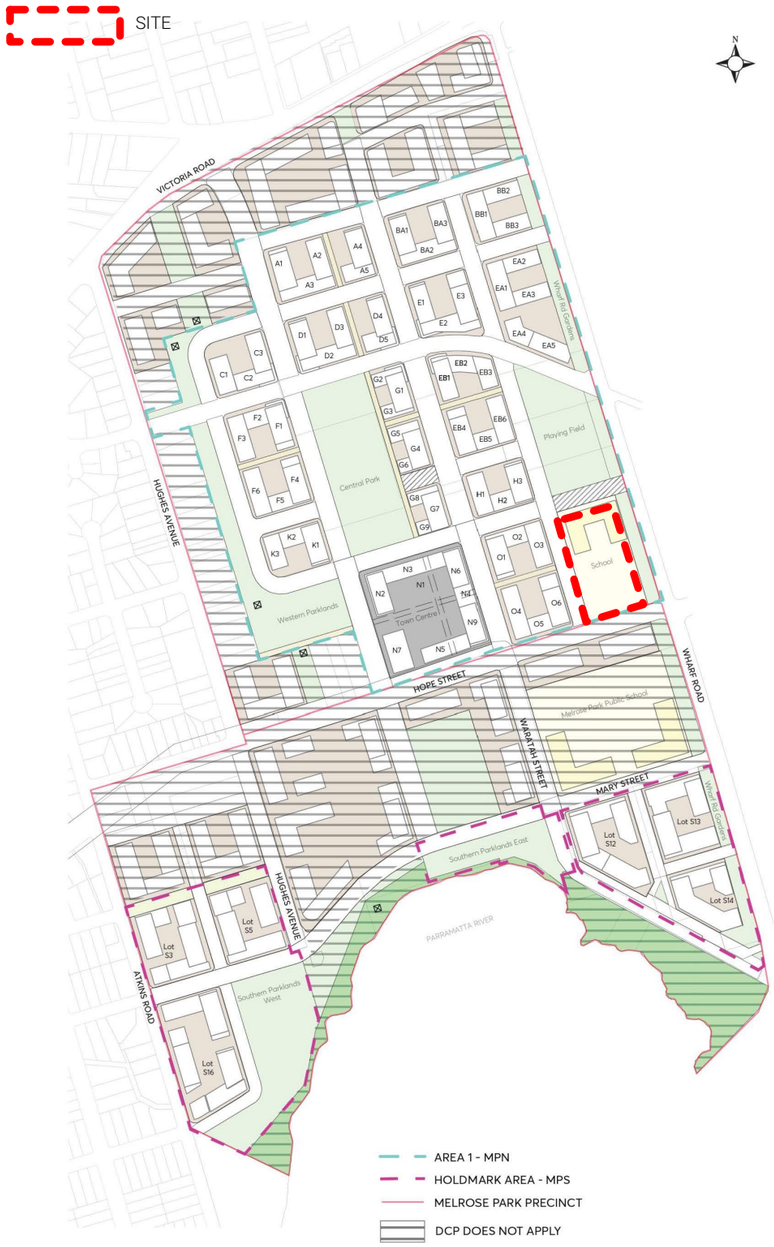

Figure 10: Melrose Park Masterplan (Source: PDCP 2023)

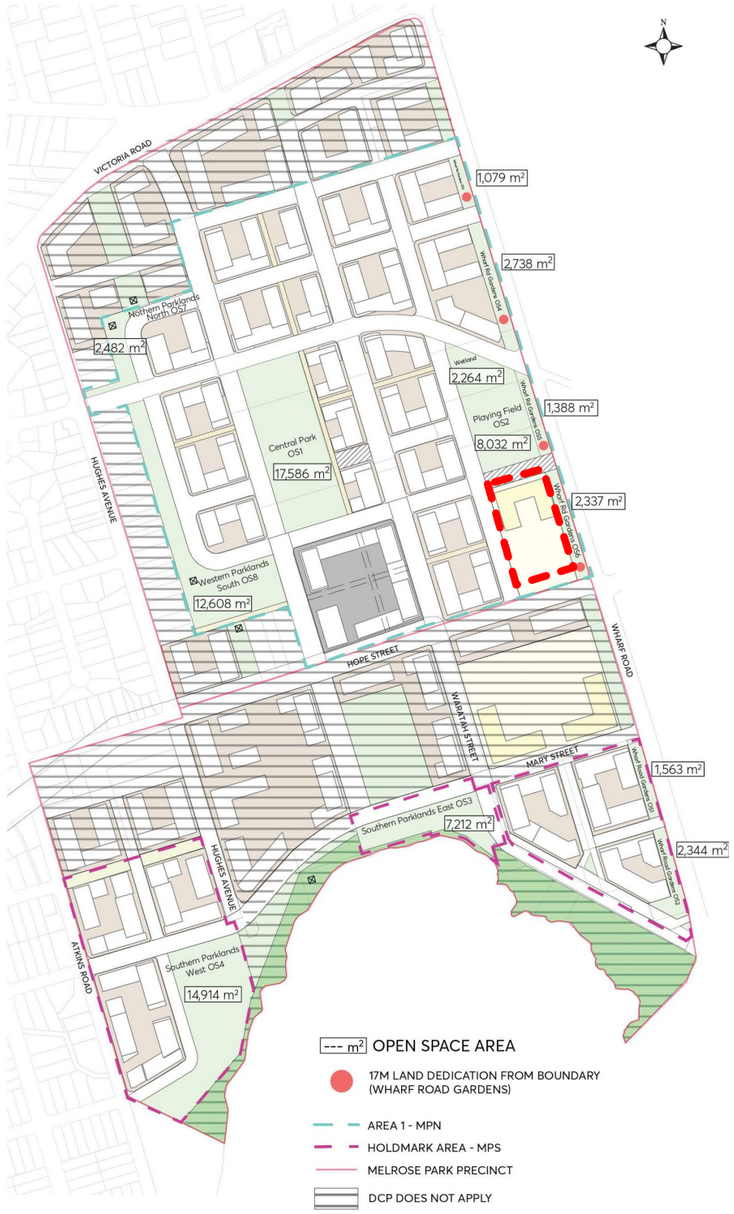

Figure 8: Melrose Park Open Space area

Figure 9: Maximum GFA plan per Lot (Source: PDCP 2023)

SITE

Figure 13: Building Heights (Source: PDCP 2023)

Figure 12: Street Setbacks (Source: PDCP 2023)

Figure 11: MAX GFA (Source: https://www.planningportal.nsw.gov.au/)

SITE

Figure 16: Land Zoning (Source: PDCP 2023)

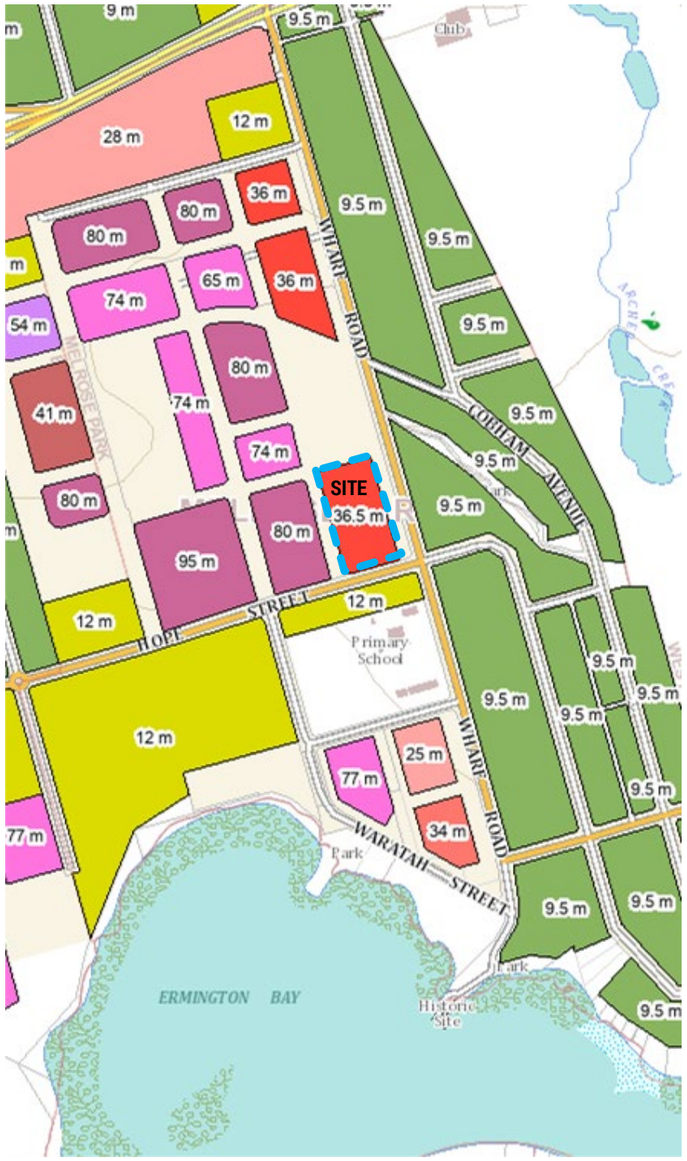

Figure 15: Building Height Control (Source: PDCP 2023)

Figure 14: Aboriginal Heritage (Source: PDCP 2023)

5.2 SITE ANALYSIS

A comprehensive analysis of the site is crucial for understanding its characteristics, constraints, and opportunities. Here's a detailed overview of various aspects of the Melrose Park High School site:

SOLAR, WIND AND CLIMATE

The dominant wind direction in winter (June-August) is from the southwest and in summer (December-February) is from the easterly direction. In accordance with the National Construction Code's climate zone map (Sept 2019), Melrose Park Highschool is in Climate zone 6 with mild temperatures which include high diurnal range inland and four distinct seasons. Summer and winter can exceed human comfort range and spring and autumn are ideal for human comfort. Mild to cool winters have low humidity, and hot to very hot summers have moderate humidity.

TOPOGRAPHY

The site is relatively flat based on desktop analysis, which is beneficial for construction. However, a detailed topographical survey is needed to confirm precise elevations and slopes. This data will inform site grading, drainage design, and building placement.

VIEWS

The site affords views to the CBD towards east on upper levels, to Paramatta river to the south. The views to the west will be largely blocked by future developments, and the Northern views expand over the adjacent communal playing field and wetlands to new developments.

SETBACKS

6m setbacks apply on southern and western side, 3m setback on Northern site, and no setback restrictions to eastern side.

CONTAMINATION

Previous site investigations identified localized contamination, which necessitates remediation. The Remediation Action Plan (RAP) and Site Audit Statement (SAS) specify the required remediation activities to render the site suitable for a school. These remediation works are underway and will be completed before site handover.

EASEMENTS

There are no existing easements on site.

HERITAGE

The site itself is not within a heritage conservation area. However, it is in proximity to a local heritage item I290 ('landscaping, including millstones at Reckitt') which is in the proposed reserve along the eastern site boundary. Any development should consider the potential impact on this heritage item and incorporate measures to preserve nearby historical features

Figure 17 Site Analysis Diagram

WATERWAYS AND RIPARIAN ZONES

The Ermington Boat Ramp on the Parramatta River is approximately 650 meters walking distance to the south along Wharf Road. Archer Park, also located by the Parramatta River, is about 450 meters away on foot. The shoreline along Ermington Bay to the south of the site features mudflats and mangroves.

TRAFFIC AND CYCLE WAYS

Future cycle ways will be accessing the site according to Paramatta Bike Plan. There will be Shared Path along Wharf Road reserve. and separate cycle way along Hope Street.

PUBLIC TRANSPORT

Parramatta Light Rail Stage 2 aims to connect communities in the Greater Parramatta and Olympic Peninsula. Construction is set to start in 2025, with a stop located near the Melrose Park High School project. This stop is called, 'Melrose Park.'
Furthermore, with multiple bus stops on either side of Hope Street and some along Wharf Road, student capacity of Melrose Park Highschool will be supported.

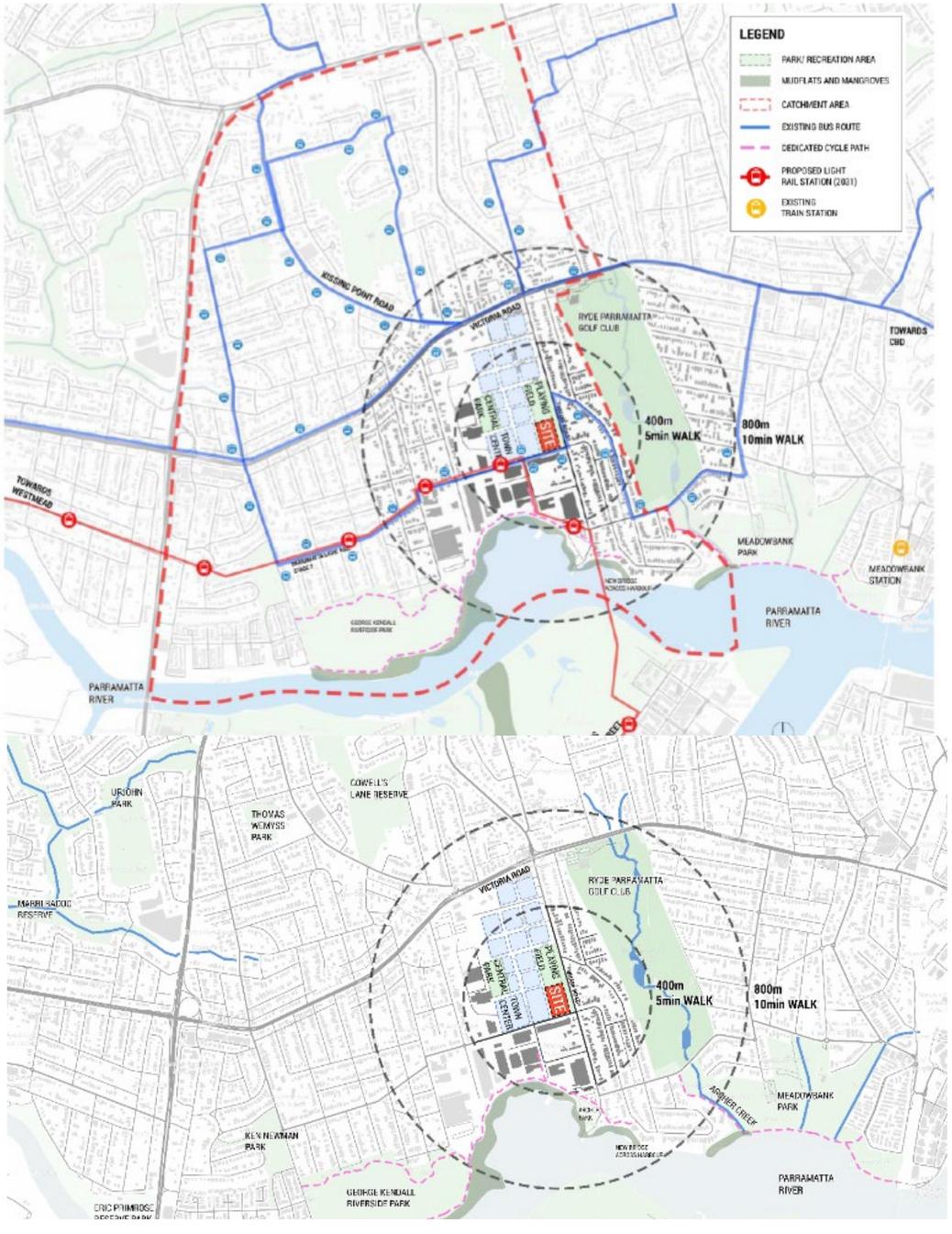

Figure 19: Waterways and riparian zones

SITE PHOTOS

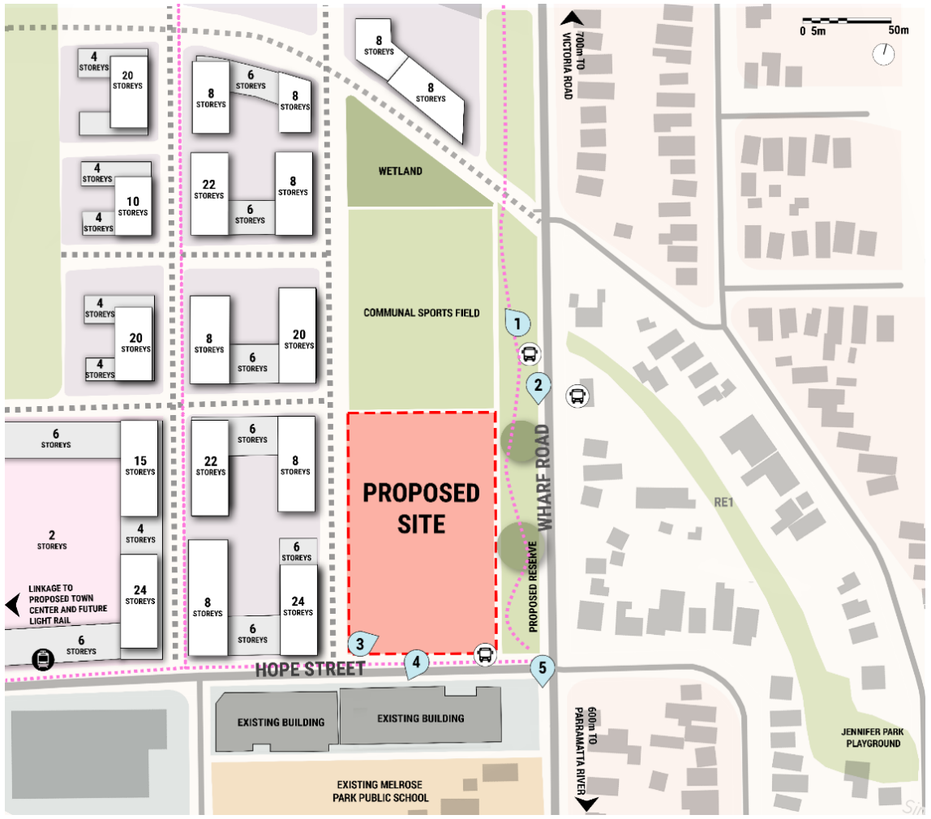

Figure 20: Viewport Diagram and site photos (Source: NBRS)

1. PROPOSED WHARF ROAD RESERVE

2. WHARF ROAD VIEW FROM BUS STOP NORTH OF SITE TOWARDS SOUTH

3. PROPOSED SITE - VIEW FROM SOUTH-WEST CORNER TOWARDS EAST

4. EXISTING INDUSTRIAL BUILDING ON HOPE STREET SOUTH OF SITE

5. CORNER HOPE STREET AND WHARF ROAD VIEW TOWARDS SOUTH

5.3 RISKS

GORE BAY PIPELINE

Risk:
The Gore Bay to Clyde oil pipeline operated by Viva passes along Waratah Street, and then towards west along Hope Street. The proposed high school site south western corner is 122m away from the Viva pipeline. The Viva pipeline nis a licensed pipeline.

Mitigation measure (Refer to HAZARD AND RISK ASSESSMENT Report)::
A Safety Management Study (SMS) is required to be undertaken with Viva and other stakeholders in accordance with AS 2885.6-2018 when the construction plan is ready, prior to any construction.

JEMENA PIPELINE

Risk:
The Jemena secondary gas mains run along Hope Street and then deviate to run along the length of Wharf Road, to the east of the subject site.

Mitigation measure (Refer to HAZARD AND RISK ASSESSMENT Report):

- Consultation with Jemena should be undertaken with the primary aim of protecting the 350mm gas line during the construction of the School buildings.
- The school emergency plan should include actions to be taken in the event of a gas/ oil release emergency from the pipelines (safe place of shelter).

FLOODING

Risk:
While the site itself is not affected by the flooding,

Mitigation measure
A Flood Emergency Management Plan has been prepared that shall be reviewed yearly and kept up to date.

NOISE IMPACT ON NEIGHBOURING PROPERTIES

Risk:
Rooftop playground – noise emmision.
Mitigation measure
School Management plan to address the mitigation measures and educate Students on appropriate noise levels.

VISUAL PRIVACY

Risk:
Potential privacy issues with furure residential .
Mitigation measure
Privacy review needs to happen once the plans for neigbouring residential are made available.

Figure 21: Locations of Gore Bay Pipeline and Secondary Natural Gas Mains (source: HAZARD AND RISK ASSESSMENT Oil & Gas Pipelines near proposed Melrose Park High School prepared by Arriscar)

Figure 22 Evacuation assembly Point Map (Source: MELROSE PARK HIGH SCHOOL, prepared by Enstruct)

6.0 PLANNING PRINCIPLES

6.1 KEY GUIDING PRINCIPLES (DIRECT FROM GANSW GUIDE / SEPP)

(Note – Principles are currently being revised by GANSW with slight amendments to wording which will be confirmed in the next few weeks)

The following principles in schools have been adopted from the *State Environmental Planning Policy (Transport and Infrastructure)* 2021 Chapter 3 Schedule 8_- Design quality principles in schools – and the update of those as per SEPP T&I Amendment (No 2) 2024.
These same principles have also been referenced within the Government Architect NSW Design Guide for Schools.
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Figure 1- Relationship of SINSW Documents (Diagram TBC by SINSW)

The architectural and landscape design responses detailed in sections 6.0, 7.0 and 8.0 of the Melrose Park High School (MPHS) REF Architectural Design Report demonstrate a commitment to the seven guiding principles outlined in section 5.1.

Principle 1 - Responsive to Context: The design exhibits a deep understanding of the site's environmental, social, and cultural contexts. This is evident in several aspects:

- The building orientation maximises solar access and natural ventilation.
- The height and scale of the buildings transition harmoniously from low-rise residential areas in the east to the planned high-rise developments in the west.
- The landscaping incorporates native plants and trees reflective of the Cumberland Plains and the unique environment presented by the mangroves along the Parramatta River, promoting biodiversity and connecting with Country and with the site's history.
- The design respects the existing view corridor to the town centre and incorporates culturally significant elements (water, land, sky) through consultation with local Aboriginal groups.

Principle 2 - Sustainable, Efficient, and Resilient: The design prioritises sustainability through a range of initiatives.

- The project is targeting a 5-star Green Star rating.
- The building facades are designed to optimise daylight and natural ventilation, reducing reliance on artificial lighting and mechanical systems.
- Landscaping includes water-sensitive urban design (WSUD) initiatives to manage stormwater runoff and mitigate the heat island effect.
- The school promotes sustainable transport options, including ample bicycle parking and end-of-trip facilities for staff.

Principle 3 - Accessible and Inclusive: The design ensures accessibility for all users and promotes inclusivity.

- All entrances, pathways, and facilities are designed to accommodate people with differing needs and abilities.
- The design caters to the needs of students of different ages and developmental stages.
- The school design incorporates opportunity for spaces, such as the hall and sports facilities, which can be used by the broader community outside of school hours.

Principle 4 - Health and Safe: The design prioritises the health, safety, and well-being of students, staff, and visitors.

- Safe routes for travel to and from school are planned, including dedicated pedestrian and bicycle paths, and strategically located pick-up and drop-off zones.
- The design incorporates Crime Prevention Through Environmental Design (CPTED) principles to enhance security and reduce the risk of crime. This includes clear sightlines, effective lighting, and controlled access points.
- The landscape design promotes active / passive play and outdoor learning opportunities, contributing to the physical and mental well-being of various student cohorts.

Principle 5 - Functional and Comfortable: The design creates comfortable and engaging learning spaces that support various educational activities.

- The school provides a variety of indoor and outdoor learning spaces, including classrooms, a library, flexible learning spaces, various workshops, labs, performance, sporting facilities and a rooftop play area.
- The design considers natural light, ventilation, views, and acoustic privacy to ensure comfortable and functional learning environments.
- The layout supports clear wayfinding and easy navigation throughout the school.

Principle 6 - Flexible and Adaptable: The school is designed for adaptability and future growth.

- The buildings are designed using a modular grid system, allowing for easy reconfiguration and expansion to accommodate evolving educational needs.
- The landscape design incorporates flexible spaces that can be adapted for a range of activities.
- The school's infrastructure is designed to support future technological advancements and growth of the school.

Principle 7 - Visual Appeal: The design aims to create a visually appealing and engaging school environment.

- The building facades incorporate a playful design language inspired by the local landscape, drawing on colours and patterns from the natural environment and.
- The landscaping complements the architecture, creating a cohesive and visually appealing campus.
- The design respects the desired future character of the surrounding precinct and contributes positively to the streetscape.

The MPHS design effectively responds to the seven guiding principles. Through its sustainable features, inclusive design, safety considerations, and emphasis on creating a visually appealing and functional learning environment, the project aims to deliver a high-quality educational facility for the community.

6.2 EDUCATION PLANNING PRINCIPLES

The NSW Department of Education is committed to ensuring our infrastructure meets the needs of a growing population and enables future-focused learning and teaching to support outcomes for students.
In line with this vision, the *Place Creation Handbook for Public Schools* aims to create learning environments which support children's ability to thrive academically, socially and emotionally and feel a sense of belonging to their learning community.
The following Education Principles should underpin the design of all learning environments:

1	Education Principle 1 *First and foremost, focus on the needs of learners and learning.*

School Planning Considerations:

Development of the Child: The public school system, caters for children ranging from 3-4 years old (preschool*), all the way through to 17-18 years (seniors). Recognizing that the development needs of children vary significantly as they

grow, school environments must be designed with a deep understanding of the age and particular needs of their student cohort. This includes consideration for how the environment meets the physical, cognitive, emotional, and developmental needs of children, including the following:

- Physical Development: The physical environment of the school should be designed to encourage physical activity and motor skill development. Provide spaces for playing, running, climbing, and playing sports appropriate to the children's age. Additionally, environments should encourage children's healthy physical growth by ensuring access to natural daylight, fresh air and thermal comfort.
- Cognitive Development: Create environments that stimulate curiosity, exploration, and learning. This might involve incorporating age-appropriate interactive displays, and spaces that encourage discovery and problem-solving.
- Social Development: Designing spaces that foster social interaction, collaboration, and empathy. This includes creating areas for group activities, team projects, and peer interaction, as well as quieter spaces for solitary activities or reflection.
- Emotional Development: Ensuring that environments promote a sense of security, belonging, and emotional well-being. This can be achieved through the use of comforting colors, textures, and lighting, as well as providing areas for relaxation or emotional support.




Early Learning*	Primary	Secondary	Seniors
Preschool Age: 3-4 Years **Refer to NSW Child Care Planning Guideline and the SINSW Preschool Design Brief for Early Learning design requirements*	K-6 Age: 5- 11 years **Stages:** Kindergarten Stage 1 (Years 1-2) Stage 2 (Years 3-4) Stage 3 (Years 5-6)	Years 7-10 Age: 12-15 years **Stages:** Stage 4 (Years 7-8) Stage 5 (Years 9-10)	Years 11 -12 Age: 16-18

2 *Education Principle 2*
Foster community and identity by cultivating a culture of welcome, inclusion, and belonging that celebrates and reflects the diversity of the school community.

School Planning Considerations:
Connecting with Country: With over 70 different Aboriginal Nations in NSW, all with different natural and cultural systems, each school site is unique. As such, there is no universal design for Connecting with Country. How the site relates to its context – its community, natural environment, built environment, and cultural setting – should inform the project. Responding to the specific character and identity of a location will allow the school site to compliment and care for Country and allow for deeper connection between Country and people. Additionally, incorporating elements of Aboriginal knowledge throughout the school environment by displaying artworks and symbols that reflect local stories, will promote a sense of pride and shared belonging. For more information refer to the **Connecting with Country Framework.**

Inclusive Design: School environments should be designed to ensure that the physical space is inclusive and accessible to students, staff, and visitors. Where possible, this includes accessible entrances, pathways, and facilities that accommodate individuals with disabilities or different needs. Outdoor areas should consider children with special needs and create spaces which allow for children of different abilities to take part in play and learning activities. A comprehensive approach to Inclusive Design fosters a welcoming and supportive educational environment for everyone. For more information refer to the **Inclusive Design Framework**.

Shared Community Use: Public schools are central to all communities across the state and local schools play an important role in shaping the culture, environment and economy of each local area. By creating shared use opportunities between community groups and the school, we maximize resources, enhance access to facilities, and foster stronger community connections, benefiting both educational and local development. For more information refer to the Shared Use information page.

3 *Education Principle 3*
Provide built environments which are aesthetically pleasing, engaging and safe, designed to inspire joy, learning, and a sense of wonder.

School Planning Considerations:
Scale of the Child: The physical design of the school must recognise that children are physically smaller, have different capabilities and sensitivities compared to adults, and require spaces and designs that cater to their unique requirements. Spaces should be appropriately scaled for the size of the child, ensuring that children are not overwhelmed by vast open areas and spaces and objects are physically dimensions for the comfort and ergonomics of the child.

Elements of Play and Delight: Incorporate features that spark joy, creativity, fun and engagement for children, including whimsical shapes, colours, and interactive components that invite exploration and discovery. Incorporating sensory experiences, such as varied textures, sounds, and lighting effects, can also enhance delight. By integrating these elements, spaces become more dynamic and enjoyable, fostering a sense of curiosity, happiness and learning. For more information refer to the **Landscape Design Framework.**

Safety Needs: School environments should be places where children feel emotionally and physically secure and supported. This involves designing spaces that are welcoming and nurturing. Additionally, children's physical safety should be front and centre in the design of a school, with design measures implemented to minimize risks of injury or accidents. A well-designed physical environment which promotes supervision of children, will also ensure that educators feel supported in their duty to keep children safe. For more information refer to the **Safety in Design Framework**.

4 *Education Principle 4*
Provide contemporary, sustainable learning environments, which promote children's understanding and appreciation of the natural world.

School Planning Considerations:
Environmental Stewardship: Incorporate sustainable design principles that demonstrate stewardship of the environment and promote responsible citizenship. This can include green spaces such as community gardens, outdoor classrooms and nature discovery areas to provide environmental education. Making environmental efforts visible to students through for example rain gardens, recycling stations and energy monitoring devices can also enhance environmental stewardship. For more information refer to the **Sustainability Framework** and the **Environmental Design in Schools Guide**.

Sustainable Buildings and Environments: By creating ecologically sensitive outdoor spaces and energy-efficient buildings, schools can foster healthy learning environments. Schools should utilise renewable energy sources, incorporate water-saving fixtures and rainwater harvesting systems, and use sustainable, non-toxic building materials. Sustainable transportation options, such as biking and carpooling, are encouraged, along with active community involvement in sustainability initiatives. By implementing these principles, schools not only reduce their environmental footprint but also educate and inspire students to be responsible stewards of the planet. For more information refer to the **Sustainability Framework** and the **Environmental Design in Schools Guide**.

5	*Education Principle 5* *Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.*

School Planning Considerations:

Sense of Ownership: Provide opportunities for students, teachers, and staff to personalize and contribute to the school environment. This could involve designated spaces for student artwork, collaborative projects, or community gardens that promote a sense of ownership and pride.

Future-Proofed Layouts: Schools must be designed with flexibility and adaptability in mind to accommodate evolving educational needs and changing demographics. Using a modular grid system, spaces can be easily reconfigured for different school uses over time, and expanded as needs grow. Advanced technological infrastructure is integrated to support digital learning tools and seamless connectivity. By anticipating future trends and needs, future-proofed school layouts ensure that educational facilities remain relevant, efficient, and conducive to student success for years to come. For more information refer to the Standardised Approach Framework.

6.3 ARCHITECTURAL DESIGN PRINCIPLES

We have identified three key design principles to adopt in designing Melrose Park New High School. These were established during masterplan phase and have continued to be guiding principles through concept design phase.

SCHOOL DESIGN WITH APPROPRIATE ARCHITECTURAL & LANDSCAPE DESIGN RESPONSE

When considering the very physicality and powerful presence the built environment has on influencing the interaction between people, built learning environments can become psychosocial spaces. This silent and subtle shaping of people's attitudes towards each other can render the learning environment as one which takes on the role of an implicit curriculum; one which is not overt and didactic in style, but one which implicitly suggests the importance of respect and consideration for others.

NBRS applies the following design techniques to influence the creation of a built environment that benefits the users as well as creates a presence of the school within the greater Melrose Park area:

- Creating a safe environment for young adult learners and staff.
- Designing stimulating environments to support variety of teaching & learning modes
- Use durable materials that withstands wear & tear in a high school environment.
- Maintain view corridor to the new town centre,
- Maximise North South facing buildings.
- Provide the opportunity for good sightlines to the outdoor play spaces.
- Minimise the risk of overlooking and overshadowing neighbouring residences.
- Design of buildings and landscapes that respond to the natural topography of the site.
- Design a simple building layout to enable clear navigation within the campus.
- Design building fabrics that reflect the unique characteristics of the place to create a sense of belonging.
- Establish building heights that are sympathetic to providing natural light to the outdoor play areas.
- Create an urban scale built-form that responds to the future high-density residential developments on the neighboring sites.

DESIGNING CONNECTION TO THE NATURAL SURROUNDING

Outdoor environments encourage spontaneous, voluntary, and joyful learning opportunities for children to explore and interact with their peers and the world around them. Play spaces, vegetable gardens, and outdoor sports courts are outdoor learning activities that promote teamwork and hands-on experiences. This includes designing learning environments that respond to simple and pragmatic ecologically sustainable design & biophilic design principles as outlined below.

CREATING A COMMUNITY HUB.

A partnership between the school and the community provides the opportunity to engage with and enhance the surrounding community to create a stronger school as a hub within its community.

NBRS looks for the following design opportunities to enable some interaction between the school and its community.

Opportunity to share some of the school facilities for community use after school hours. Extended use of school facilities activates the school beyond its operational hours and increases passive supervision.
Design a entry plaza at the main entrance to the school to create a meeting space that is welcoming.
Provide opportunities to connect with the local Aboriginal Community.

We see the need to preserve local history and cultural significance for students, staff, and the community. Acknowledging the history and knowledge of the Aboriginal custodians of the land, the vast rivers and rolling mountains, flora, and fauna.

Melrose Park, situated within the Parramatta and Ryde Local Government Area (LGAs), is part of the Traditional lands of the Wallumedegal clan of the Dharug people. We see the opportunity to reference in the school design; the importance of Melrose Park High School to be a hub to celebrate its tradition and culture.

6.4 SINSW EDUCATION PRINCIPLES

The below principles are obtained from SINSW General education principles and are incorporated into the design of the Medowie High school.

Education Principle 1
First and foremost, focus on the needs of learners and learning.

Education Principle 2
Build community and identity and create a culture of welcome, inclusion and belonging that reflects and respects diversity within the school's community.

Education Principle 3
Be aesthetically pleasing.

Education Principle 4
Provide contemporary, sustainable learning environments that:
Promote learning for students and teachers through collaboration, social interaction and active investigation.
Encourage learner self-management and self-direction.
Support a full range of teaching strategies from direct explicit instruction to facilitation of inquiry and authentic project and problem-based learning.
Facilitate learning and connection anywhere, anytime by providing seamless access to ICT and integration of learning resources throughout the learning spaces.
Be integrated into, and maximise the use of the natural environment
Enable aspects of the buildings, building design and outdoor spaces to be learning tools in themselves—for example, learning from the ecologically sustainable features of the design and associated energy management systems.
Are age and stage appropriate.

Education Principle 5
Embed the potential for re-configurability, both in the present for multi-purpose use and over time for changing needs.

6.5 CONNECTING WITH COUNTRY

The objective is to recognise the material and spiritual connection of Aboriginal people to the land, water and sky of Country. By committing to a process of equitable and meaningful co-design with Aboriginal cultural knowledge holders, school environments which include culturally safe spaces for Aboriginal people will be developed. Aboriginal cultural knowledge and truth telling will be embedded in these environments.

In consultation with Aboriginal culture knowledge holders embed elements of Aboriginal culture within the design. In addition to physical design elements, explore opportunities for the incorporation of intangible cultural elements into the design, inculding signage, naming, way findings, artworks, etc.

6.6 CPTED STRATEGY

Crime Prevention through Environmental Design (CPTED) is a crime prevention strategy that focuses on the planning, design and structure of cities and neighbourhoods. It reduces opportunities for crime by using design and place management principles that reduce the likelihood of essential crime ingredients (law, offender, victim or target, opportunity) from intersecting in time and space.

Predatory offenders often make risk-benefit assessments of potential victims and locations before committing crime. CPTED aims to create the reality (or perception) that the risks of committing crime are greater than the likely benefits. This is achieved by creating environmental and social conditions that:

• Maximise risk to offenders (increasing the likelihood of detection, challenge, and apprehension).
• Maximise the effort required to commit crime (increasing the time, energy and resources required to commit crime).
• Minimise the actual and perceived benefits of crime (removing, minimising or concealing crime attractors and rewards); and
• Minimise excuse making opportunities (removing conditions that encourage / facilitate rationalization of inappropriate behaviour).

CPTED employs four key strategies. These are territorial re-enforcement, surveillance, access control and space/activity management. All CPTED strategies aim to create the perception or reality of capable guardianship. Further, CPTED can also make people, particularly vulnerable people, more comfortable in public spaces and create a sense of safety.

6.7 SUSTAINABILITY

The key ESD design objectives include:

- 5 star Certification with Green Star. The project has been registered under V1.3 in alignment with NSW GREP 2019.
- We see the importance to maximizing North facing buildings
- A landscape design driven strategy to reduce the concentration of heat island effect on a grouped courts by separating them and introducing soft landscaping in between courts.
- Some biophilic design initiatives such as:
    - Targeting GBCA standard of openable window area for optimum cross ventilation
    - Providing area of refuge in a combination of outdoor covered spaces and tree canopies
    - Maximising good outlook to bring outside in and ensuring sufficient natural light intake.
    - Incorporating some forms & colours that derived form the nature.
- Creating clear wayfinding strategy using featured elements

Using building as teaching tool for example the integration of creation story

Other good practice sustainable design approach include following initiatives :

- Providing Shared use opportunities
- Optimising renewable energy usage…. aim for minimal to no use of gas
- Maximising outdoor spaces
- Rainwater Harvesting. We are targeting 100,000 liter capacity for irrigation.
- Waterwise landscaping solution:
- Low VOC and Formaldehyde product
- Consider good Waste management strategy which often includes waste separation
- Implementing sustainable transport strategy
- A Healthy food canteen plan
- Introducing Native planting and edible plants.

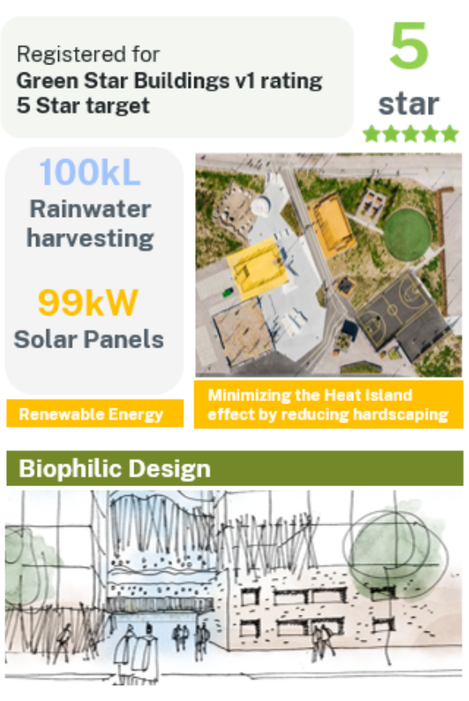


Figure 23: Green star initiatives

7.0 ARCHITECTURAL DESIGN RESPONSE

The following series of diagrams illustrate key masterplan design strategies that addresses site specific challenges into a masterplan that prioritises meeting learners' and educators' need.

- Good solar access
- Protection from western winds
- Capturing cooling northeastern summer breezes
- Maximizing outdoor space to favourable north-east aspect

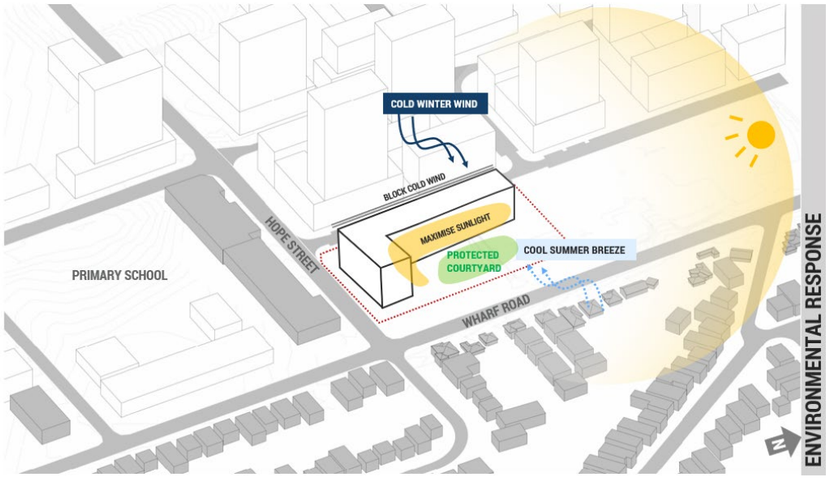


Figure 24 Environmental Response to Site (Source: NBRS

- Respecting the adjacencies
- Acknowledging lower density in the east
- Acknowledging future high density and scale in the west

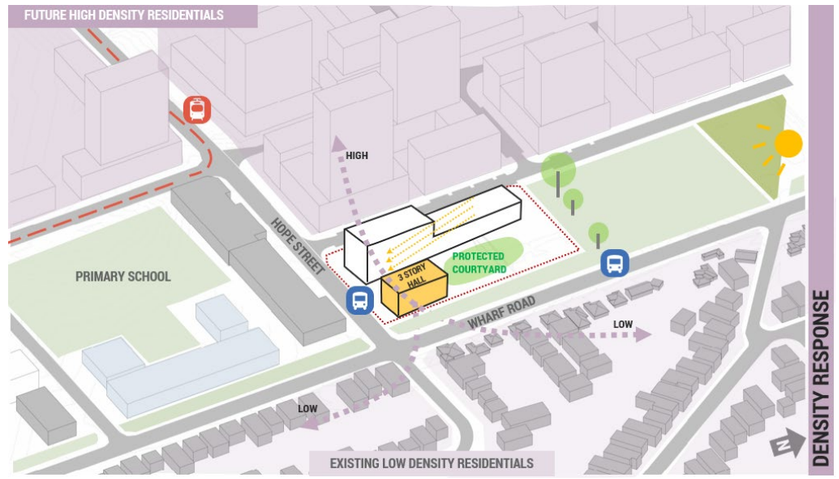


Figure 26 Density Response to Site (Source: NBRS)

- Acknowledging connection to future town centre
- Creation of main entry plaza centred on cross – suburb link
- Good pedestrian navigation principles
- Good visual and physical connection to communal playing field

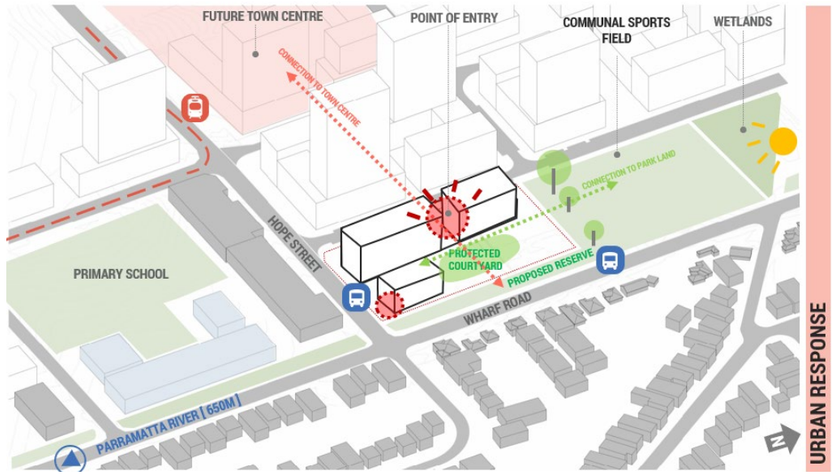


Figure 25 Urban Response to Site (Source: NBRS)

- Ensuring high school remains operational during stage 2 construction
- Buildability and safety
- Proximity to Melrose Park Public School

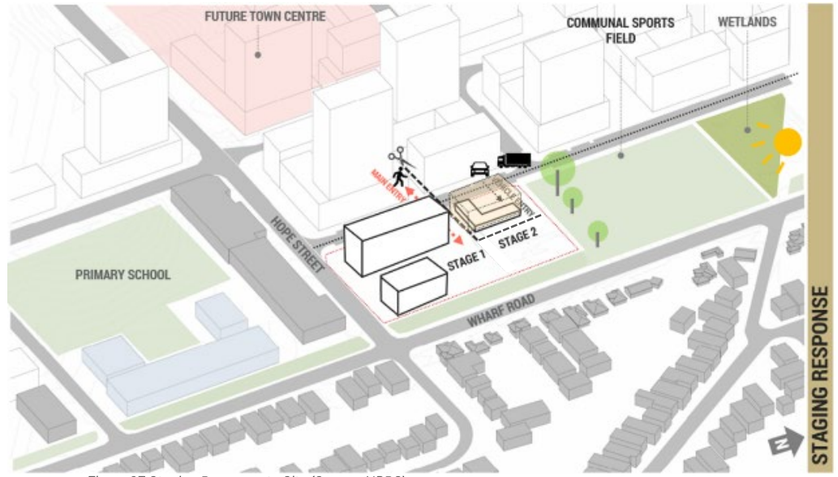


Figure 27 Staging Response to Site (Source: NBRS)

7.1 URBAN DESIGN

7.1.1 FLOODING

Although the school site itself is not directly flood-affected during a PMF (Probable Maximum Flood) event, it is crucial to ensure that occupants have access to safe routes leading to the nearest hospital in case of an emergency A flood emergency Management Plan has been developed that has to be updated and reviewed yearly..

Key Flood behaviour

The flood mitigation measures implemented as part of the development result in the following flood behavior on the school site and surrounding areas:

- During a 1% AEP storm event, temporary ponding of stormwater occurs at the southern end of the playing field, north of the high school site. The maximum depth of ponding is between 0.5 and 0.75 meters. Stormwater overland flow travels in a north-westerly direction towards this low-point valley, where ponding is concentrated.
- For storm events exceeding 5% AEP intensity, overland flow from the Western Parklands Stormwater Detention Basin and Biofiltration Area moves southward across the playing field. This flow then shifts eastward towards the Ryde Parramatta Golf Club.
- The western boundary of the school site experiences flooding during a PMF (Probable Maximum Flood) event, with water reaching a maximum depth of 0.6 meters at the low point in the northwestern corner. This accumulation is caused by upstream inundation along the proposed NSR-4 road. Prior to reaching the northwestern boundary, lower levels of inundation, up to 0.3 meters, are observed along the western boundary. These details are illustrated in Figure on the right.

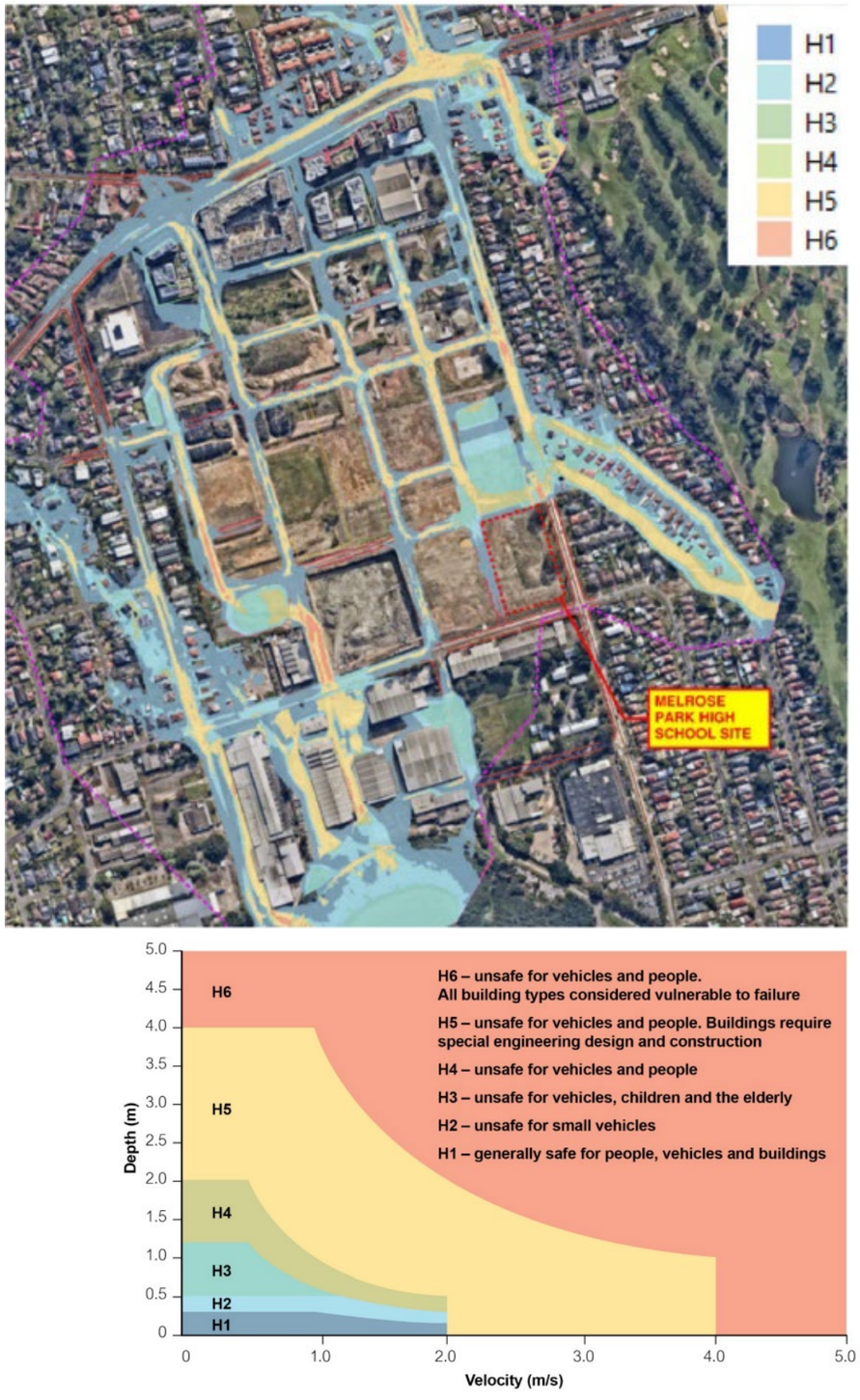


Figure 28: PMF Hazard map (Source: Enstruct Flood Impact Assessment report.)

7.1.2 WIND ENNVIRONMENT

Windtech was engaged to assess the potential impact of the proposed development on the local wind environment, focusing on key outdoor areas within and surrounding the site. The evaluation considered the three dominant wind directions in the region—north-east, south to south-east, and west—along with local wind patterns, the building design, and the site's topography.
The assessment concluded that the development includes several design features and wind-mitigation strategies, making most outdoor areas suitable for their intended use. However, some areas are likely to experience stronger winds. To address these, Windtech recommended the following mitigation measures:

- Ground-Level Areas (Stages 1 and 2):
  - Retain the proposed trees, ensuring they are densely foliating evergreen species.
  - Include additional densely foliating evergreen trees.
- Levels 1–4 External Walkways (Stages 1 and 2):
  - Install balustrades at least 1.3 meters high with 30% porosity (highlighted in images to the right).
- Level 5 Terrace (Stage 2):
    - Install 1.5-meter-high balustrades with 30% porosity (highlighted in images to the right)..
    - Add planter boxes with densely foliating evergreen plants, achieving a combined height of a least 1.5 meters.

These measures are expected to effectively mitigate wind impacts, ensuring outdoor areas meet comfort and usabilit standards.

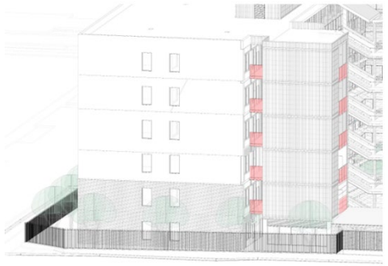


Figure 31: Provision of wind barriers to the Southern elevation (source:NBRS)

Figure 31: Provision of wind barriers to the Western and Northern elevation and roof top playground(source:NBRS)

Figure 31: Provision of wind barriers to the Eastern elevation and roof top playground(source:NBRS)

7.1.3 SETBACKS

The following setback provisions are set out in the Paramatta DCP for this site: 6m to the street frontages in the west and south, 3m to tne nothern commu8nal playing field and no setback to the Wharf road Gardens in the east.

The new buildings have been designed and positioned to ensure compliance with the desired future character of the precinct.

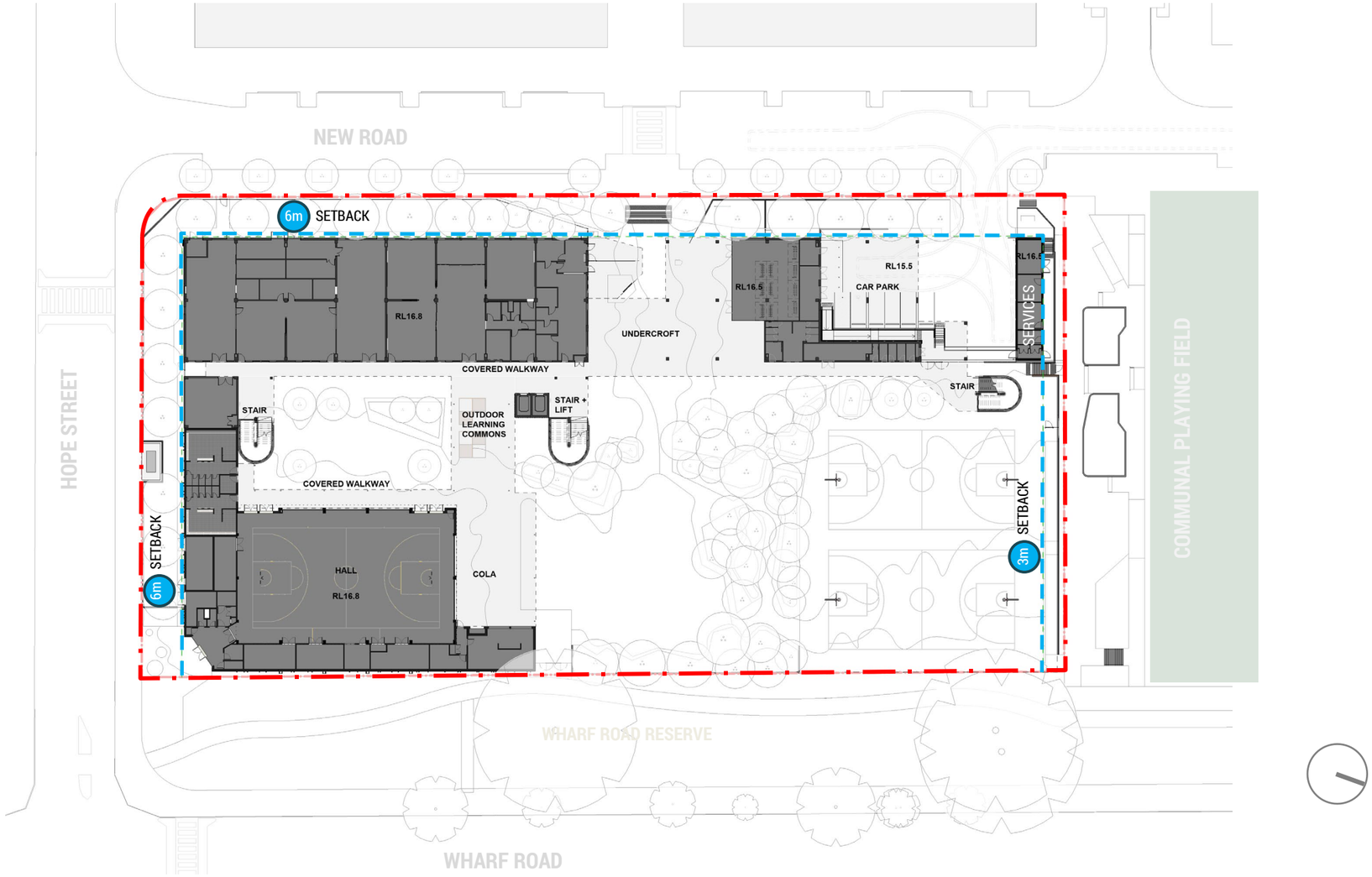
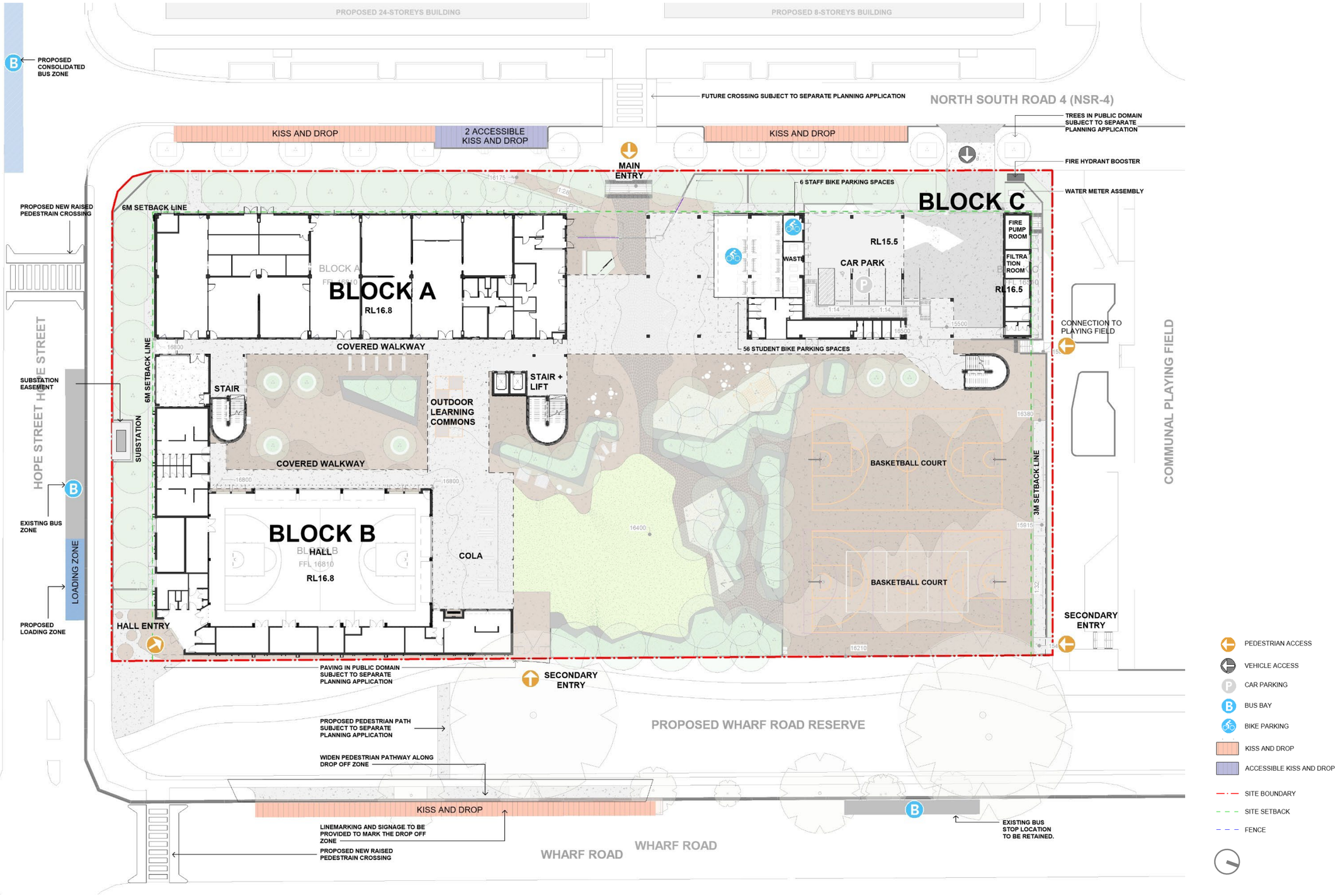


Figure 32: Setbacks shown in blue dashed line above(source: NBRS)

7.1.4 SITE PLAN



7.1.5 STREETSCAPE / PUBLIC DOMAIN

Main Entry and Drop-off Zones

The main entry is centrally positioned at the crossing of the New Road, providing a direct link to the new town center. This strategic placement ensures visibility, accessibility, and a clear sense of arrival.
Pick-up and drop-off zones are located along the school perimeter on the school side of the road, designed to streamline traffic flow and prioritize safety. The accessible entry is also conveniently positioned to facilitate ease of access for all users.
csThe New Road, currently in the planning phase, is being coordinated by the SINSW in collaboration with developers. The drop-off zone will be implemented under a separate planning application to ensure alignment with the broader precinct development strategy.

Setback and Landscaping

The area within the setback is fenced but carefully landscaped with large trees planted every 8–10 meters, as requested by the council. This approach balances the need for security with the enhancement of the streetscape, creating a visually appealing buffer zone that softens the transition between the built environment and natural elements.

Civic Presence and Urban Transition

The school serves as a significant civic landmark, positioned to address the evolving urban context. Its design mediates the transition in built form from the low-rise residential properties to the east, across Wharf Road and its adjacent reserve, to the high-rise residential developments of up to 24 storeys planned for the west.
This carefully considered positioning and architectural expression ensure that the school contributes to the civic identity of the area while maintaining harmonious integration within the diverse urban fabric. The design not only establishes the school as a vital community asset but also reinforces its role as a bridge between the past, present, and future character of the precinct.

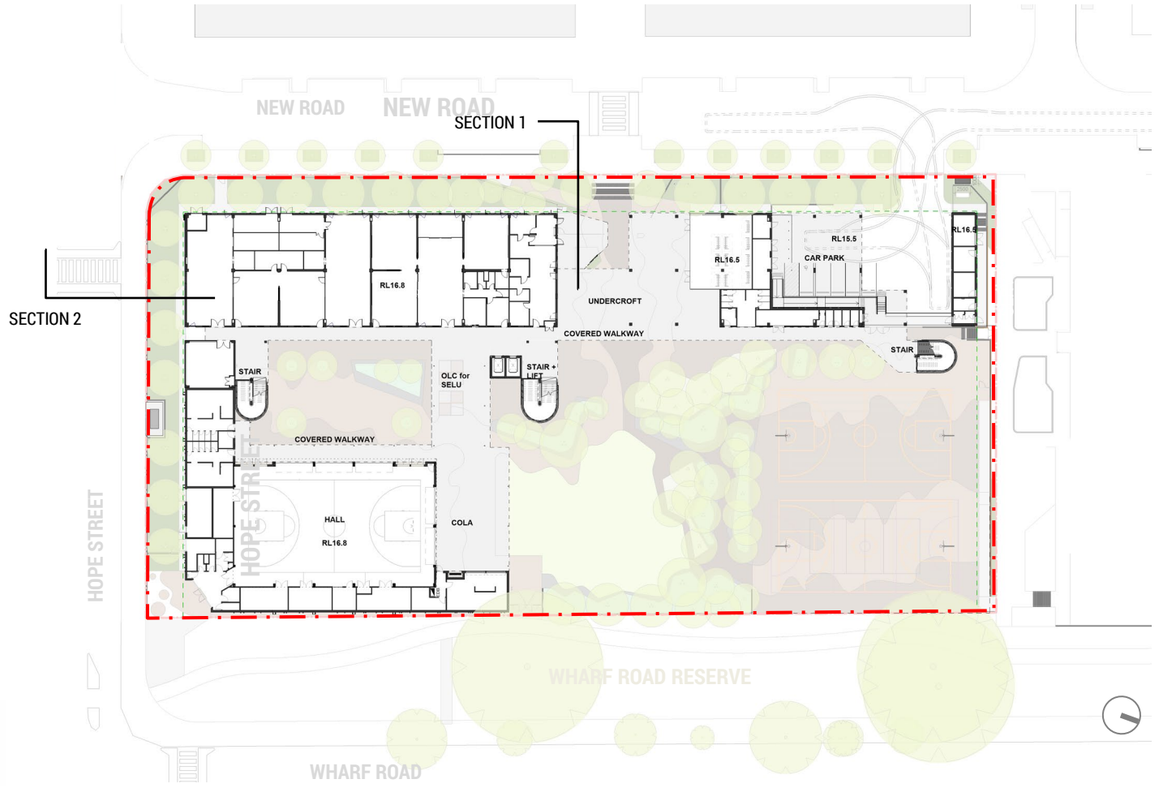


Figure 35: Site plan (source: NBRS)

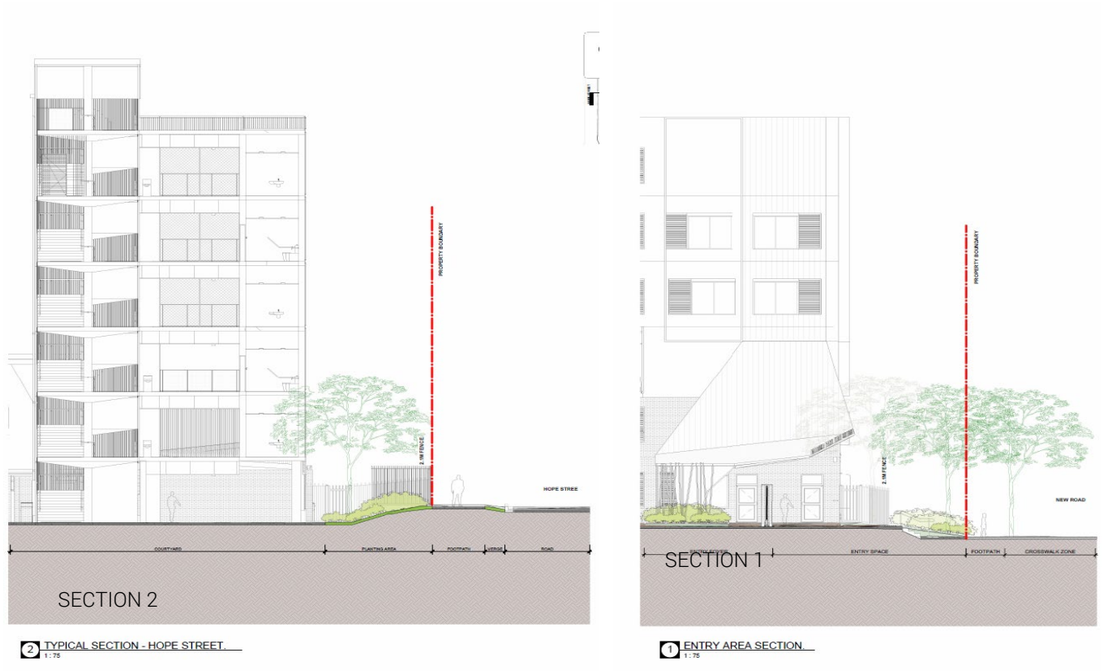


Figure 34: Streetscape sections (source:MBRS)

Public Domain and Connectivity at the South-Eastern Corner

The public domain enhancements at the south-eastern corner of the site prioritize accessibility, safety, and connectivity, particularly around the public entry to the hall. The proposed extension of the paving at the entry plaza ties together three key urban elements:

- The Gardens Pathway: Landing midway between two pedestrian crossings.
- The Pedestrian Crossing on Hope Street: A crucial access point for community members.
- The Entry to the Hall: The focal point of the south-eastern corner, reinforcing its role as a civic space.

This cohesive paving design aligns with natural desire lines, enhancing usability and ensuring seamless access from multiple directions. Refer to landscape section of this report for further detail.

Kiss and Drop Facilities

To further improve functionality, the project includes the widening of the footpath along Wharf Road to accommodate a Kiss and Drop zone. This zone will feature appropriate linemarking and signposting, ensuring clear guidance for users. Additionally, a connecting pathway will link the Kiss and Drop zone on Wharf Road to the eastern entry near the canteen, facilitating safe and efficient access for students and caregivers.

7.1.6 PUBLIC ENTRIES

Public entries are integral to creating a welcoming and accessible interface between the school and the wider community. These entries serve as key transition points, providing a clear sense of arrival and orientation for visitors, students, and staff.

The design ensures that the **entry plaza** serves as a vibrant and inviting space, incorporating elements of landscaping, and defined pathways to enhance usability and create a positive first impression. This space acts as a hub for gathering and a clear focal point for entry to the school.

The public access to the hall is thoughtfully designed to prioritize accessibility and functionality. These entries are distinct yet seamlessly integrated into the overall site plan, ensuring easy navigation for the community while maintaining security and operational efficiency for the school.

By addressing both the entry plaza and hall access, the design fosters a strong connection between the school and the community, emphasizing safety, inclusivity, and engagement.

Entry Plaza

The Entry Plaza serves as the primary gateway to the school, thoughtfully designed to create a strong sense of arrival and connection with the surrounding precinct. Positioned along the precinct's key view corridor, it aligns with the urban design intent by linking back to the Town Center and framing views across the school grounds to Wharf Road Reserve and beyond.

As a civic space, the Entry Plaza not only facilitates seamless access to the school but also enhances the streetscape, offering an inviting, community-focused atmosphere. The design incorporates landscaping and pedestrian-friendly pathways, ensuring it is both functional and welcoming. By respecting the precinct-wide view corridor, the Entry Plaza integrates the school within its broader urban context, establishing it as a landmark while fostering a positive relationship with the community.

Hall Entry

The hall entry is strategically positioned at the prominent corner of Wharf Road and Hope Street, serving as a significant civic gesture that enhances the building's presence in the neighborhood. The design features a secondary civic plaza along Hope Street, which activates this key corner and fosters community engagement, particularly outside of school hours. This plaza invites potential use by local residents, creating a vibrant space that not only activates the street frontage but also strengthens the connection between the school and the broader community. By embracing its role as a civic anchor, the hall entry contributes to the sense of place and promotes civic interaction in this future bustling corner of the precinct.

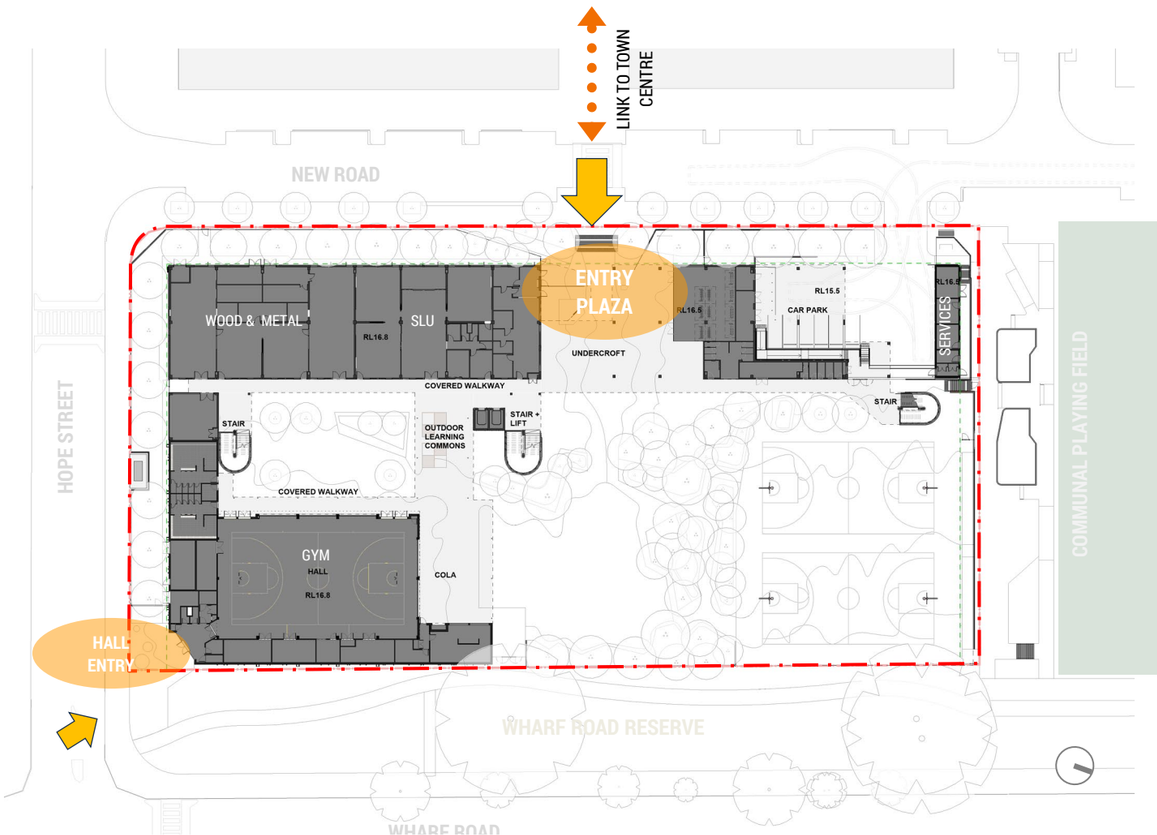


Figure 36: Public entry location Map (Source: NBRS)

Figure 39: Main Entry plaza perspective (source: NBRS)

Figure 37: Hall entry perspective (source:NBRS)

7.2 BUILT FORM AND SCALE

The masterplan for the teaching and learning facilities features a 6-story structure (BLOCK A) facing Future Road on the western side in Stage 1, which will be expanded to the north with an additional 5-story structure (BLOCK D) along the same road in Stage 2. The space between Block A and Block C will form an entry plaza, preserving a view corridor from the town center.

The area beneath the future BLOCK D will house a small staff parking lot and a service/maintenance area, both accessible from Future Road. Vehicular access for deliveries, waste management, and staff parking is strategically located on the northern side of the site along Future Road, ensuring a clear separation from pedestrian access to the school.

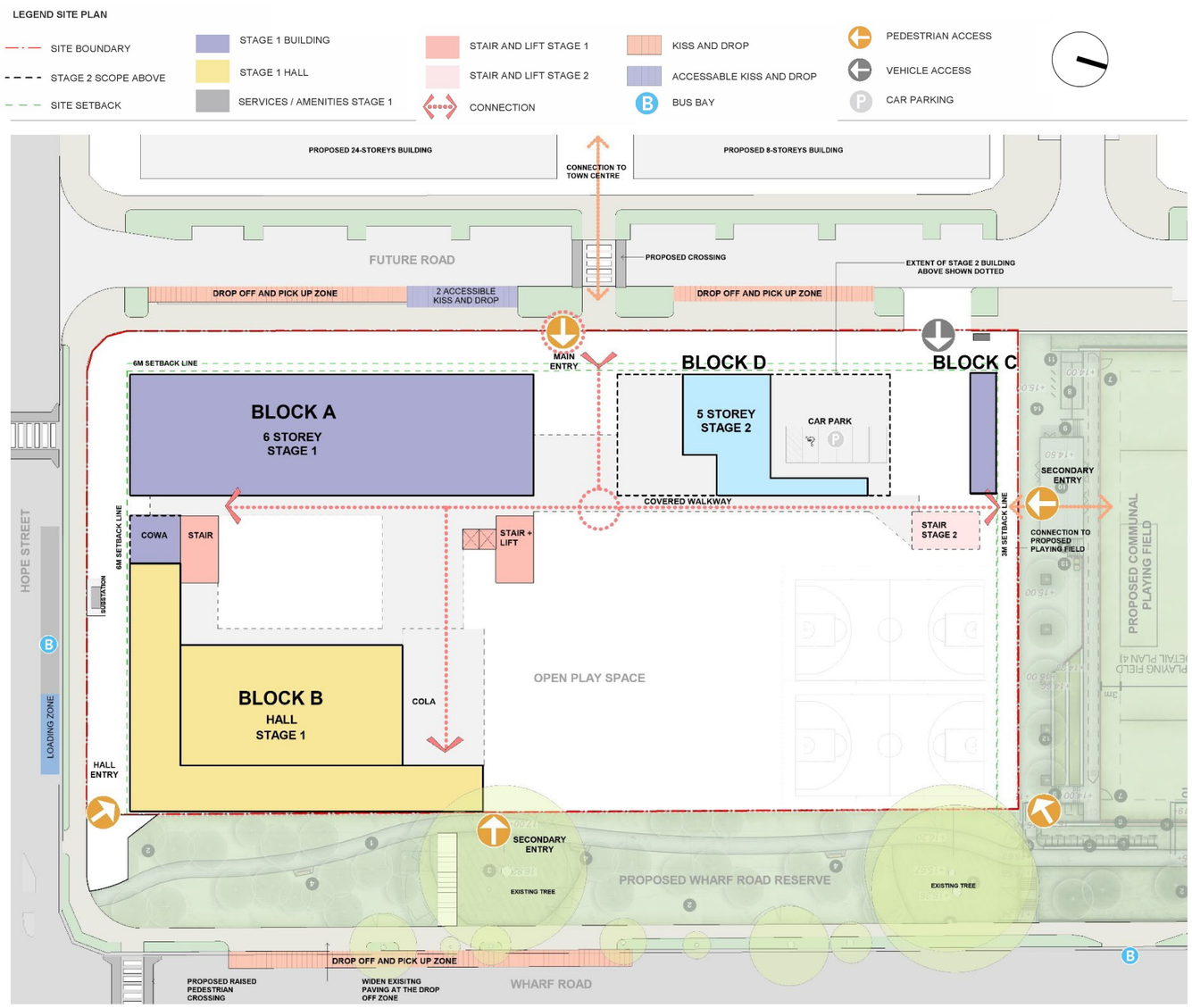


Figure 41: Masterplan Site plan (source: NBRS)

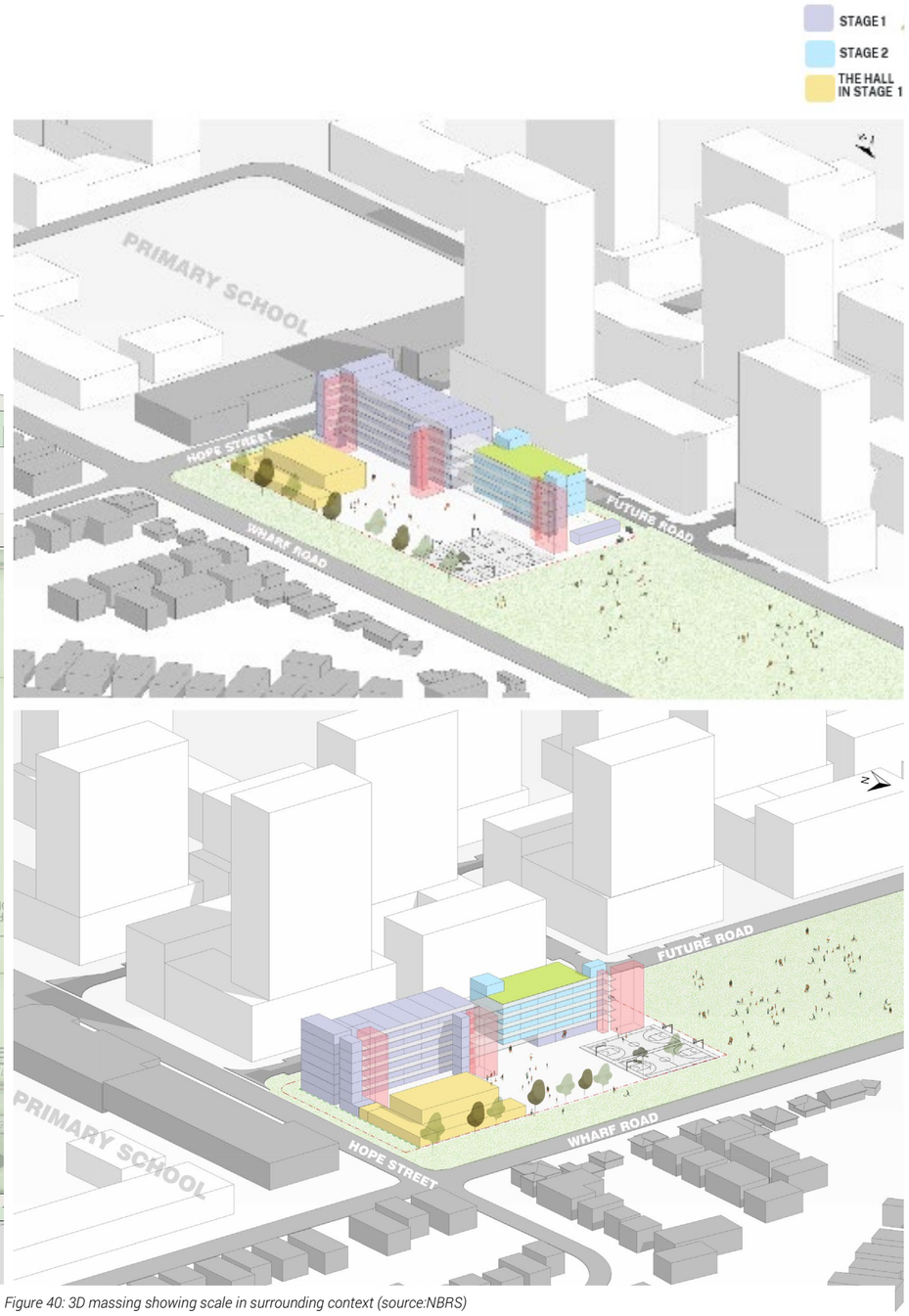


Figure 40: 3D massing showing scale in surrounding context (source:NBRS)

7.2.1 HEIGHT AND OVERSHADOWING

The key height, overshadowing, and planning considerations for the proposed school construction include:

- Minimizing overshadowing: To avoid shading the school's play areas, the design positions lower built forms to the east, reducing overshadowing from the north and east.
- Height specifications:
  - The western block in Stage 1 is planned at 6 storeys high.
  - Stage 2 construction will involve a 5-storey structure at the northern end.
- Respecting planning constraints:
  - The design adheres to a 6m setback from Hope Street and New Road.
  - There is a 3m setback to the northern communal playing field.
  - No setback is required for the eastern Wharf Gardens reserve.
- Height transition: The height of the built form transitions smoothly from the low-rise residential developments in the east to the higher-rise developments in the west, maintaining harmony with the surrounding urban fabric.
- Maximizing solar access: The orientation of the school buildings is optimized to ensure maximum solar access for both the school and its outdoor play areas.

No impact on neighbouring residential developments: The position and height of the school buildings are carefully designed to ensure no impact on neighbouring residential developments..

Figure 43: Diagrams: Transition of built form (source:NBRS)

Figure 42: Building long section(Source:NBRS)

NOTE:
MAX PLANNING ENVELOPES FROM THE LEP AND DCP HAVE BEEN USED FOR SHADOWS FROM FUTURE SURROUNDING DEVELOPMENT

LEGEND

SITE BOUNDARY

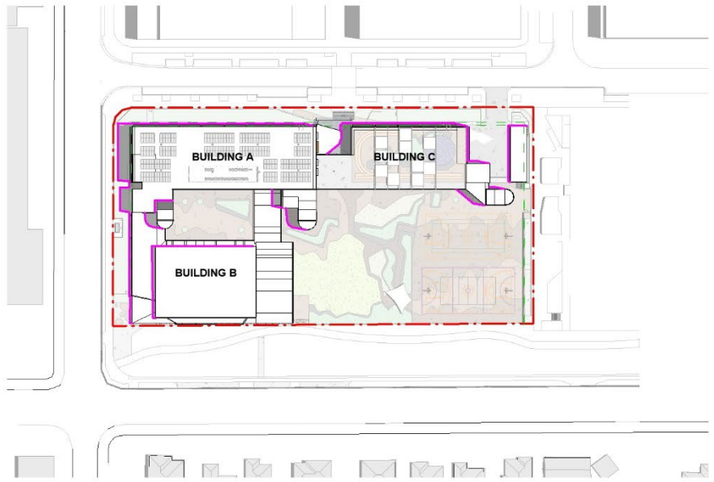
PROPOSED ACTIVITY SHADOW OUTLINE

1 SHADOW DIAGRAM - JUNE 21 - 9am

2 SHADOW DIAGRAM - JUNE 21 - 12pm

3 SHADOW DIAGRAM - JUNE 21 - 3pm

4 SHADOW DIAGRAM - DEC. 21 - 9am



5 SHADOW DIAGRAM - DEC. 21 - 12pm

6 SHADOW DIAGRAM - DEC. 21 - 3pm

Figure 44: Melrose Park HS Shadow diagrams (Source: NBRS)

7.2.2 BUILDING FAÇADE

FORM AND FAÇADE IDEA

Our façade design is shaped by ongoing workshops and consultations with local language groups and the community. Drawing on traditional knowledge of water, land, and sky, we break down the building's volumes. Sun shading elements and brick patterns reflect the local flora and fauna, fostering a deeper connection with the surrounding environment. Additionally, a sense of playfulness is introduced at the entry canopy to highlight the point of arrival, enhancing the students' and staff's experience..

ENVIRONMENTALLY SUSTAINABLE FAÇADE DESIGN.

Melrose Park High School façade design is adopting the SINSW Pattern Book design where feasible. The Pattern Book façade prioritizes efficiency and high performance, ensuring alignment with project budgets. It is essential to the building's thermal performance, indoor environmental quality, and biophilic connection to the outdoors, while also defining the school's external appearance and internal character. The design incorporates key metrics for façade glazing and natural ventilation on both street and walkway sides. Student safety, security, and reduced long-term maintenance are integral to the design. While standardized to meet GLS requirements, the façades are adaptable to accommodate specialized spaces.

The refinement of the typical standardised building GLS façade and the developed guidelines achieve the following outcomes in relation to the key compliance parameters set out above:

- A spatial daylight autonomy (sDA) result of 42% and above for all NSW climate zones and for four orientations, i.e. direct North, South, West and East.
- This is assessed in accordance with the Green Star and EFSG requirement of achieving a min. of 40% of the floor-area above 160 lux for a minimum of 80% of the occupied period.
- A natural ventilation free-area of 6.25% of the floor-area, in accordance with the EFSG Design Guideline 55, and the Australian Standard 1668.4.
- Compliance with NCC Section J
- Compliance achieved for NSW Climate Zone 5

The below recommendations are taken from the "SINSW standardised Façade Design GLS Hub" submitted on 24/06/2024 (Rev 01)

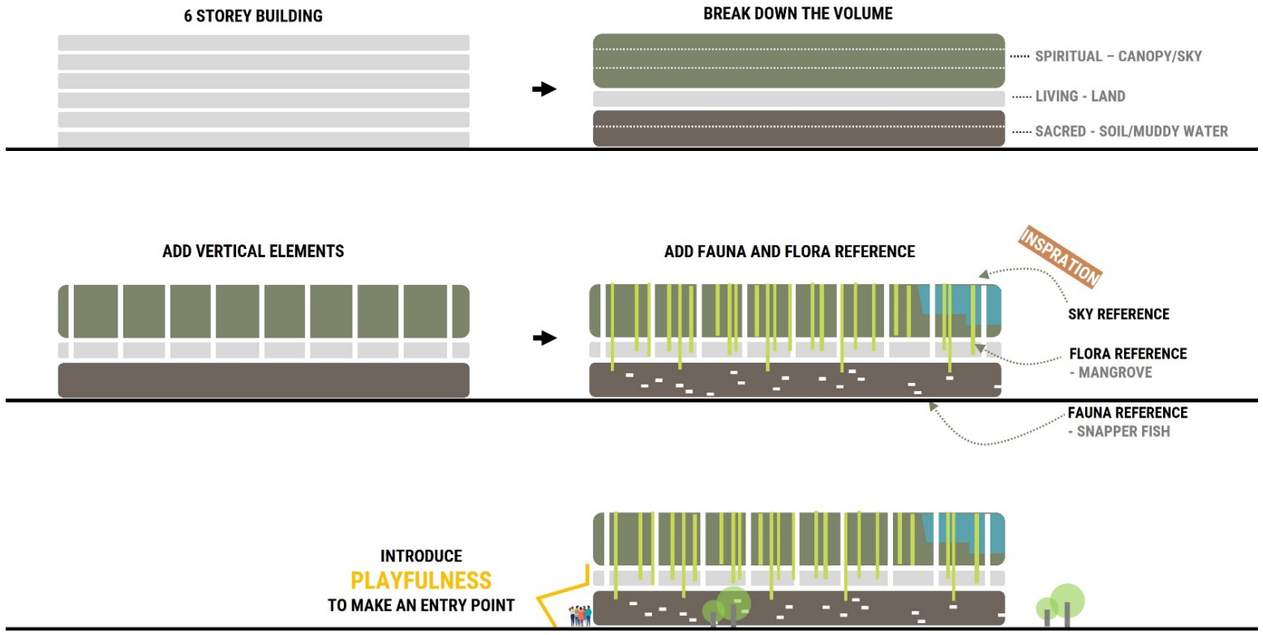


Figure 46: Facade Design strategy (Source: NBRS)

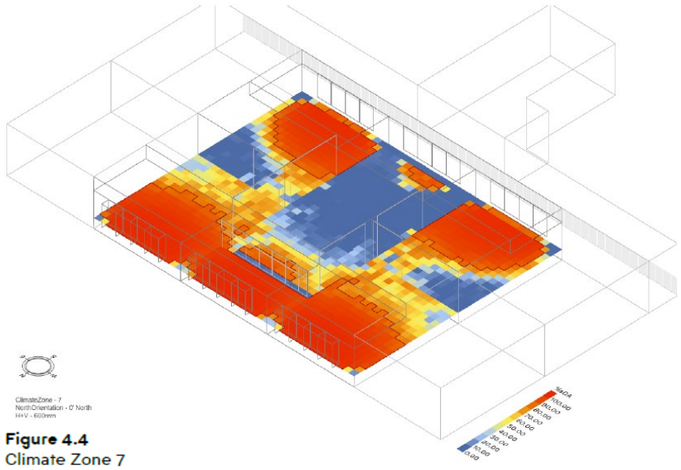


Figure 4.4
Climate Zone 7
Walkway Facing South
Glazing: 4 Panels of 1.2x1.7m (WxH)
Shading 600mm Fins Vertical + Horisontal
Staircase Included
Schedule 9AM to 4PM
sDA – 43% (Compliant)

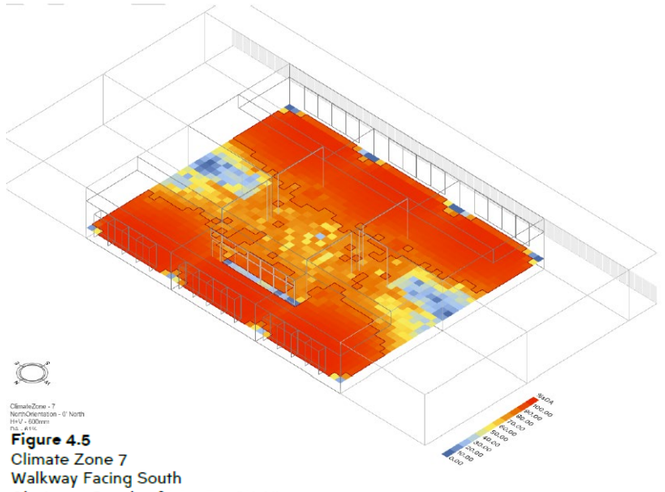


Figure 4.5
Climate Zone 7
Walkway Facing South
Glazing: 4 Panels of 1.2x1.7m (WxH)
Shading 600mm Fins Vertical + Horisontal
Staircase Excluded
Schedule 9AM to 4PM
sDA – 61% (Compliant)

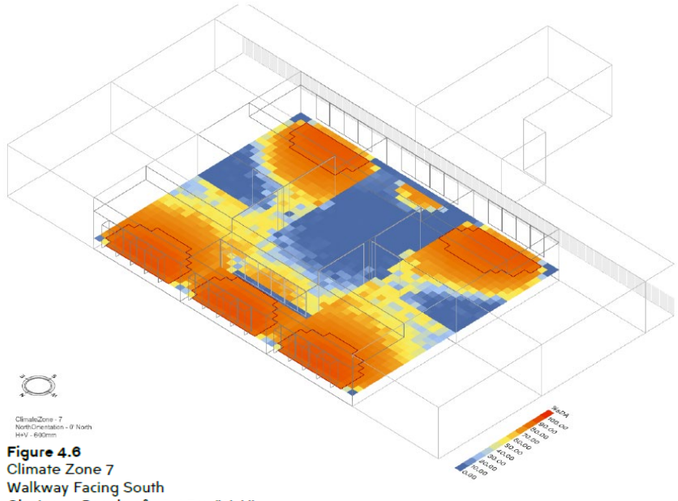


Figure 4.6
Climate Zone 7
Walkway Facing South
Glazing: 4 Panels of 1.2x1.7m (WxH)
Shading 600mm Fins Vertical + Horisontal
Staircase Included
Schedule 9AM to 6PM
sDA – 20% (Non-compliant)

Figure 47 Diagrams form SINSW Pattern Book

Daylight assessment

Spatial Daylight Autonomy (sDA) is the daylighting metric used to evaluate daylight availability across the different spaces. Australian sustainability assessment framework Green Star (D&AB v1.3) requires between 40-60% of regularly occupied (aka Primary) spaces to achieve at least 160 lux for 80% of the time. The EFSG requires the same performance criteria to be applied to each floor.

Natural ventilation assessment

With the daylight assessment indicating 4 glazed panels of 1.2x1.7 m is required; the natural ventilation assessment should be considerate and coordination with this requirement.

Principles of Natural Ventilation

Natural ventilation is the principle of introducing air change between the ambient and internal, thereby diluting any internal sources of pollution such as odour, carbon dioxide, volatile organic compounds (VOCs) etc. The use of effective natural ventilation can typically be expected to improve the indoor air quality (IAQ) and reduce the use of mechanical ventilation and air-conditioning and associated energy usage. This combination is often referred to as mixed-mode ventilation.

In all newer schools delivered by SINSW the natural ventilation is supported by a mechanical ventilation system to ensure the IAQ levels are maintained at all times, even under 'no wind' scenarios, or during periods where use of natural ventilation would result in extremely cold or hot indoor air temperatures

Natural Ventilation Results

Two operable louvre each with a width of 1,400mm width and height 1,700mm height provide an effective free area of 4.3 m2, with an effective opening ratio of 90%. The louvre should be distributed across the façade to provide the best possible air distribution across the entire occupied area.

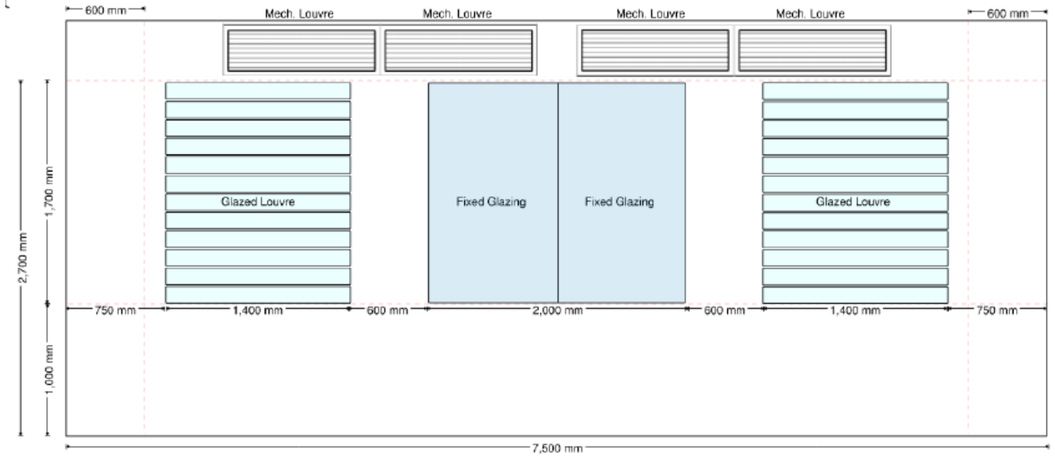


Figure 51 Diagram from SINSW Pattern Book

ELEVATIONS

Figure 48: North Elevation (Source: NBRS)

Figure 49: South Elevation (Source: NBRS)

Figure 50: East Elevation (Source: NBRS)

Figure 52: West Elevation (Source: NBRS

COLOUR APPLICATION

Colours play a vital role in school design, and we draw inspiration from natural hues that reflect the surrounding landscape and connection to Country. Key elements include:

- Eucalypt green from the Cumberland Plain
- Dark brown/charcoal from the muddy waters
- Blue from the sky
- Bright green from mangrove sprouts

We also see colour as a powerful tool for wayfinding, and we are exploring opportunities to extend this strategy into the interior spaces, fostering a strong sense of identity throughout the school.

MATERIALITY

Careful consideration of robust and pragmatic building material selection is essential for a high school. We proposed the following building material selection:

- Face brick external wall cladding is proposed for ground floor and first floor. Face brick is robust and can withstand wear and tear in highly transient area.
- Compressed fibre cement (CFC) planning is acceptable for use on the upper floors where moderate transient spaces.
- Metal cladding is inexpensive if compared to coloured through CFC. Metal cladding with up to three different corrugation profiles are proposed to be used on street facing façades where there will be no pedestrian traffic.
- Using powder coated aluminium window framing and glazing system throughout the campus.
- Using powder coated steel balustrade posts with powdercoated aluminium metal infill.

Select material from the standard material, colour ranges and finishes. Custom colours and finishes will be avoided.

Figure 53: Colours and Materials (Source: NBRS)

KEY PERSPECTIVES

Figure 57 Perspective 1 – Main Entry perspective

Figure 57 Perspective 3 – Hope Street perspective

Figure 57 Figure 43 Perspective 2 – New Road perspective

Figure 57 Perspective 4 – Wharf Street, Hall Entry perspective

7.2.3 CONNECTING WITH COUNTRY

The project will follow the draft Connecting with Country Framework published by GANSW.

Indigenous Facilitation Consultants have been engaged to identify the relevant Aboriginal Parties who are linked to the site; and as our conduit to facilitate discussion & maintain relationships with the parties. We aim to satisfy the Connecting with Country framework by incorporating Aboriginal content in the project.

The following Connecting with Country themes have been identified from initial cultural heritage historical research, site analysis and workshops conducted by Indigenous Facilitation Consultants and NBRS:

DHARUG PEOPLE AND THEIR LAND

- The Melrose Park area is part of the traditional lands of the Wallumedegal clan of the Dharug people. This clan's cultural heritage is deeply connected to the Cumberland Plains and the Parramatta River.
- "Burramatta," the Dharug name for the Parramatta River, means "place where the eels lie down," reflecting the river's significance in the Dharug culture.

CREATION STORIES

- Gurangatch and Mirragan: Central to Dharug Dreaming, this story features Gurangatch, a giant eel who created the waterways, and Mirragan, a Quoll. These stories explain the formation of the river systems and waterholes, including the Parramatta River.
- Baiame: The revered creator deity in Dharug culture, Baiame, created the landscape, animals, plants, and people. His son, Daramulum, is associated with the sun and influences the changing seasons and cycles of life.
- Significance of the Land: Stone tools, middens, and campsites found in the area provide evidence of the long-standing presence of the Dharug people and their sustainable practices, including land management techniques like controlled burning.

THE CUMBERLAND PLAIN

- The Cumberland Plains provided the Dharug people with essential resources such as food, shelter, and medicinal plants. It is home to a variety of forest types like Coastal Sandstone Gully Forest, Sydney Turpentine–Ironbark Forest, and Blue Gum High Forest, each contributing to local biodiversity and cultural heritage.
- Vegetation like the majestic Red River Gums and the endangered Turpentine–Ironbark Forest are key features of the region, reflecting the area's natural beauty and significance.

FAUNA AND FLORA

- Flora: The Dharug people utilized a diverse range of native flora for food, medicine, and tool-making. Key plants include:
  - Yam Daisy (Microseris lanceolata): A significant food source.
  - Warrigal Greens (Tetragonia tetragonoides): Known as native spinach.
  - Lilly Pilly (Syzygium smithii): Berries were a common food item.
  - Ironbark (Eucalyptus spp.): Used for making boomerangs and spears due to its strength.
  - Mangrove (Avicennia marina and Aegicerus corniculatum): Essential for water quality management and coastal protection, with parts used for medicinal purposes and as a food source.
- Fauna: Various animals were crucial for sustenance and cultural practices. Examples include:
  - Eastern Grey Kangaroo (Macropus giganteus): Provided meat, hides for cloaks, and bones for tools.
  - Common Ringtail Possum (Pseudocheirus peregrinus): Consumed for their meat, and fur used for cloaks.
  - Wedge-tailed Eagle (Aquila audax): Feathers were valued for ceremonial attire.
  - Grey-headed Flying Fox (Pteropus poliocephalus): Played a role in pollination and seed dispersal, crucial for maintaining the health of native forests.
  - Mud Crab (Scylla serrata): Found in the estuarine environments of the Parramatta River, they were an important food source for the Dharug people.
  - Snapper Fish (Pagrus auratus): A totem for the Wallumedegal clan, providing sustenance and holding cultural significance.

WATER/LAND/SKY KNOWLEDGE

- Water: The Parramatta River, known as "Burramatta" by the Dharug people, is central to their cultural and spiritual life. It served as a source of fresh water, food, and a travel route. The river is woven into Dreamtime stories, such as that of Gurangatch, the giant eel, symbolizing the life-giving and transformative power of water.
- Land: The Cumberland Plains, with its rich woodlands and biodiversity, has sustained the Dharug people for thousands of years. Their deep understanding of the land is reflected in their use of controlled burning and sustainable practices that have preserved the ecosystem. The land is seen as a living entity that nurtures and supports all life.
- Sky: The sky and celestial bodies play an important role in Dharug culture and Dreaming stories. Daramulum, Baiame's son, is associated with the sun, influencing the seasons and cycles of life. The sky serves as a canvas for stories, guiding the Dharug people in their understanding of time, navigation, and the interconnectedness of all elements.

CONNECTING WITH COUNTRY INITIATIVES:

- Cultural Integration: The school's design includes cultural narratives such as eel, fish, crabs, and mangrove symbolism, yarning circles, and the representation of local flora and fauna.
- Connection to Country: Use of natural pathways, dual naming, and colors inspired by the environment.
- Community Spaces: Creation of culturally significant areas like outdoor learning environments and community gathering spaces.
- Vegetation and Landscape: Incorporation of native plants and trees to reflect the Cumberland Plains, promoting sustainability and educational engagement with the natural environment.
- Water, Land, and Sky: Design elements will reflect the interconnectedness of water, land, and sky in Dharug culture, integrating these themes into building elements, landscape design, and wayfinding strategies.
- Storytelling and Wayfinding: Integrating Dharug stories and symbols in the design elements, including artwork, wayfinding paths, and signage.

The project's aim is to honor the cultural heritage of the Dharug people while providing a modern educational facility that serves as a living tribute to their history and ongoing cultural significance.

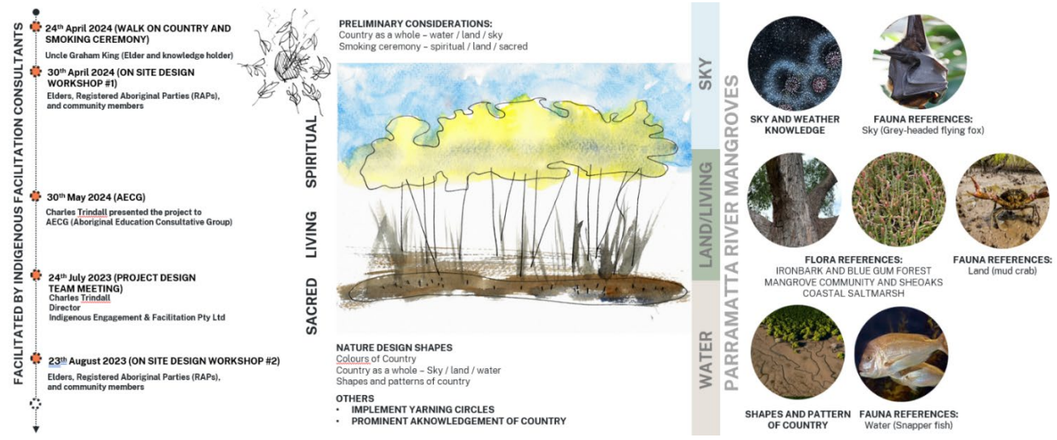


Figure 58: Connecting with Country Strategy (Source: NBRS)

7.2.4 VIEWS AND VISTAS

The site, nestled on the southeastern edge of the new Melrose Park North Precinct, offers a variety of captivating views from its upper levels. To the east, residents and visitors are treated to expansive district vistas, stretching all the way to the Central Business District (CBD). The southern views showcase the tranquil flow of the Parramatta River, adding a serene touch to the surroundings. To the north, the upper levels overlook communal playing fields, with planned high-rise residential buildings providing a modern backdrop. However, to the west, the views are predominantly blocked by neighboring high-rise residential structures across the road.

7.2.5 VISUAL PRIVACY

Privacy is a cornerstone of creating a secure and supportive school environment, essential for fostering a positive atmosphere where students and the surrounding community can thrive. Within a school, privacy not only enhances the sense of safety but also promotes individual well-being,

The physical layout of the school has been meticulously designed to enhance privacy and minimize external disruptions. Blocks A and D serve as protective barriers to the west, effectively shielding the school grounds from noise or visual distractions from that direction. Block B, on the other hand, plays a pivotal role in shielding the internal courtyard, providing coverage from the south and partially from the east. This configuration ensures that key communal and learning spaces are buffered from external interference, fostering a sense of seclusion and focus.

To further enhance privacy, the eastern boundary benefits from the setback provided by Wharf Road Reserve, which includes a public path running through it. A planting buffer has been proposed for a section along the eastern edge to reinforce this separation, adding a natural layer of privacy and reducing sightlines into the school. These landscaping efforts not only improve privacy but also contribute to a more pleasant and visually appealing environment.

The pathway to the northern playing field, 1.5 meters lower than the school grounds, provides a natural division that enhances privacy and minimizes disruptions. These design features ensure a safe and supportive learning environment for all.

The rooftop play area poses a challenge as it will remain partially exposed, allowing neighboring residences to overlook it. While some screening and planting will be implemented to enhance privacy, full seclusion is not achievable due to the space's elevated position. The school will need to manage this by considering measures such as scheduling use, enhancing screening over time, and maintaining communication with nearby residents to address potential concerns. Balancing functionality and privacy will be essential to ensure the area remains a valuable and considerate space for recreation.

7.2.6 NOISE

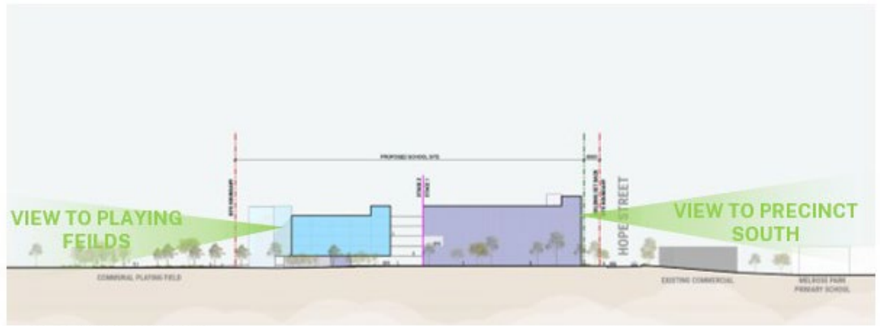
Melrose Park High School is located within a predominantly residential area, adjacent to Hope Street, Wharf Road Reserve, a future road, and a communal playing field to the north. The acoustic design criteria for the project adhere to standards such as the NSW Noise Policy for Industry (NPI), the Infrastructure SEPP (ISEPP), and the Association of Australasian Acoustical Consultants (AAAC) guidelines. These criteria establish requirements for sound levels, reverberation times, and noise intrusion limits across various spaces within the school.

The project targets a 5 Green Star rating, emphasizing internal noise control and acoustic separation to achieve the acoustic comfort credits. Noise assessments for outdoor areas have also been conducted, with recommended mitigation strategies to manage potential noise impacts effectively.

Key acoustic design measures include:

- Building Envelope: Specific recommendations for glazing, natural ventilation, external doors, façade walls, and roofs have been incorporated to minimize noise intrusion from external sources.
- Internal Spaces: Room-specific criteria ensure compliance with reverberation and noise intrusion standards. Internal partitions, flooring systems, and finishes have been selected to meet these requirements.
- Building Services: Noise from mechanical equipment such as condenser units, fans, fan coil units (FCUs), and electrical systems has been assessed. Mitigation strategies, including sound-attenuating treatments, have been proposed to manage and reduce noise emissions.

These measures aim to create a comfortable and functional learning environment that minimizes noise impacts while meeting rigorous environmental and acoustic performance standards. This approach aligns with the project's goals for sustainability and acoustic excellence.

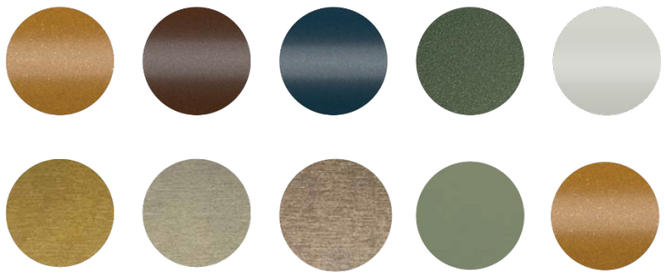


ELEVATION - WEST

ELEVATION - EAST

7.2.7 WAYFINDING

Color plays a pivotal role in creating a welcoming and intuitive school environment. Drawing inspiration from the natural hues of the local landscape—particularly elements like the land, water, and sky—our design incorporates a carefully curated palette to enhance both aesthetics and functionality.
Each level will feature a distinct color from this palette, serving as a visual cue to support wayfinding and orientation. These colors will be prominently applied to exterior features, such as facade panels and doors, making navigation intuitive even from a distance. Inside the buildings, the same strategy will extend to define distinct zones, giving each space a unique identity while maintaining a cohesive design language.
This holistic approach integrates color seamlessly into both the exterior and interior environments, enhancing the school's visual appeal and creating an engaging, user-friendly atmosphere. By fostering a sense of place and simplifying navigation, this strategy promotes a positive and inspiring learning experience for all.



7.3 SAFETY AND SECURITY

7.3.1 CPTED Response

The Crime Prevention Through Environmental Design employs four strategies:

- Territorial Re-Enforcement

  Community ownership of public space sends positive signals to the community. Places that feel owned and cared for are likely to be used, enjoyed, and revisited. People who have guardianship or ownership of areas are more likely to provide effective supervision and to intervene in crime than passing strangers. Furthermore, criminals rarely commit crime in areas where the risk of detection and challenge are high.

  Effective guardians are often ordinary people who are spatially 'connected' to a place and feel an association with, or responsibility for it. Territorial Re-enforcement uses actual and symbolic boundary markers, spatial legibility, and environmental cues to 'connect' people with space, to encourage communal responsibility for public areas and facilities, and to communicate to people where they should/not be and what activities are appropriate.

  Well Designed Communal / Public Areas

  The below are several design requirements to ensure natural surveillance in communal and public spaces within the school grounds:

  • It is important to position active uses or habitable rooms with windows adjacent to these areas, such as playgrounds, gardens, and car parks.

  • Communal spaces and utilities such as student toilets and waste areas should be easily visible.

  • Stairwells should use open or transparent materials for doors and walls.

  • Waiting areas and entries to stairwells should be well activated and visible from the building entry, and seating should be strategically located in active use areas.

  Design Response for Melrose Park HS

  Public entry points and communal spaces are integral to creating a welcoming, safe, and accessible interface between the school and its surrounding community. These spaces are thoughtfully designed to function as transitional areas, offering a clear sense of arrival and orientation for students, staff, and visitors, while prioritizing natural surveillance to enhance safety and usability.

  The entry plaza serves as a vibrant and inclusive focal point, integrating curated landscaping, defined pathways, and open gathering spaces. This design balances functionality with visual appeal, offering a dynamic yet inviting experience that fosters a strong first impression. Adjacent to key communal areas such as playgrounds, roof top gardens, and car park, active uses and habitable rooms with windows are strategically positioned to ensure consistent visibility and passive monitoring.

  Facilities such as student toilets and waste areas are designed with clear sightlines to maintain visibility without compromising privacy. Stairwells feature open designs with batten screens, enhancing both surveillance and aesthetic appeal. Waiting areas and stairwell entries are strategically activated, making them visible from building entrances and incorporating seating in high-use zones to promote engagement and usability.

  This cohesive approach to the design of public entries and communal spaces enhances connectivity, safety, and functionality,

  Consider Mixed Uses

  In the case of a school, the opportunity will rarely present for mixed use of school facilities with retail, and commercial use. However, the school can consider extending the school facilities to be used after school hours for broader community uses.

  Design Response for Melrose Park High School

  The strategic placement of the high school gym at the prominent southeast corner, coupled with outdoor sports facilities along the northern boundary, offers numerous benefits. This configuration not only optimizes accessibility but also facilitates shared use with the future primary school to the south, fostering strong physical and functional connections between the two institutions.

  By encouraging collaborative use of these facilities, the high school transcends its role as an educational space to become a vital community hub. This design approach enhances community engagement, meeting both educational and recreational needs while supporting broader community involvement.

  The shared use of school facilities aligns with the Department of Education's commitment to maximizing the school's positive impact on the local community, reinforcing its role as a dynamic, inclusive, and multifunctional space.

  Creating a Positive Image

  To foster a positive image, prioritise the prompt repair and cleaning of damaged or vandalised property, and swiftly address graffiti. Additionally, offer information on where to seek assistance and report maintenance or vandalism issues. Research supports that well-maintained and 'cared for' properties are less prone to criminal activities.

  Additionally, to maintain the aesthetic appeal of the school buildings and landscape, it is essential to use materials that minimise opportunities for damage and vandalism. Throughout the proposal, it is important to consider materials such as strong laminate, impervious glazed ceramics, treated masonry, anti-graffiti paints, and clear protective sprays.

  Design Response for Melrose Park HS

  The Melrose Park High School has been designed with the following robust building materials:to ensure durability, functionality, and aesthetic appeal. These materials were chosen to suit the varying levels of activity and wear across different areas of the campus:

  - Face Brick External Wall Cladding: Used on the ground floor, face brick is a highly durable material capable of withstanding significant wear and tear in high-traffic, transient areas.
  - Colour-Through Compressed Fibre Cement (CFC) Cladding: Applied to courtyard-facing façades on upper floors, CFC is ideal for moderate-impact areas, providing a balance between durability and a sleek, modern aesthetic.
  - Metal Cladding with Varied Profiles: Proposed for upper-level façades facing the street, this material features up to three different corrugation profiles. It is specifically selected for areas without pedestrian traffic, offering a durable, low-maintenance option with visual interest.

- Powdercoated Aluminium Window Framing and Glazing: Utilized throughout the campus, this system ensures long-lasting performance with minimal maintenance, while complementing the modern architectural language of the school.
- Powdercoated Steel Balustrades with Aluminium Infill: Designed for safety and durability, these balustrades combine robust materials with a sleek finish, aligning with the overall design vision of the campus.

This material palette reflects a commitment to creating a sustainable, low-maintenance, and visually cohesive learning environment that will withstand the demands of daily school life.

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Creating a sense of place

Promoting design that fosters community pride and a sense of place plays a vital role in maintaining the longevity of the design, as it encourages people to identify and report issues and illegitimate behaviour. It is integral to encourage broader community engagement in the design and use of school facilities. This includes identifying Country and consulting with representatives from relevant local Aboriginal language groups in a respectful and structured Connecting with Country process. Encouraging community engagement with the design could also involve offering parts of the design such as the Library and Hall for sporting and/or cultural events outside of core-functional hours.

Design Response for Melrose Park HS

The design of the new Melrose Park High School will include an Acknowledgement of Country sign and other Connecting With Country features, developed collaboratively during the construction phase and finalized near project completion through stakeholder engagement.

The school will feature Covered Outdoor Learning Areas (COLAs) and a gymnasium, with potential for shared use agreements outside school hours. Additional facilities, such as the sports fields, may also be considered for community access as the project evolves.

Extending the use of school facilities beyond school hours fosters positive social interactions and a sense of community ownership, enhancing natural surveillance. This inclusive approach improves the overall safety and security of the school, as well-utilized and well-maintained spaces are less susceptible to criminal activity. By integrating crime prevention principles, the design supports a welcoming and secure environment for both students and the broader community.

- Surveillance

  Public spaces are perceived as safe by individuals when they have the ability to observe and engage with others, particularly those who are closely associated with that environment, like store owners or neighbouring residents. Criminals are often discouraged from engaging in unlawful activities in areas that are well-monitored. Natural Surveillance is established when regular users of a space can both observe and be observed by others. This emphasises the significance of a well-considered built environment in its design, layout, orientation, location of buildings, landscaping, and lighting to enable natural surveillance to occur.

  On the other hand, technical or mechanical surveillance relies on mechanical and electronic measures such as CCTV, emergency help points, and reflective building materials. These methods are frequently employed as temporary solutions to monitor isolated and high-risk areas. Formal or organized surveillance, in contrast, involves the strategic placement of guardians. An example of this would be the deployment of on-site supervisors, such as security guards, in locations at greater risk of criminal activity.

  Ensuring safety in public spaces hinges on effective surveillance. The ability for individuals to observe and engage, particularly with familiar figures like school staff or students, creates a sense of security. Natural surveillance emphasises the importance of visibility in layouts, lighting, and landscaping.

  Avoid Blind Corners

  The design of pathways, stairwells, hallways, and car parks should prioritise the avoidance of blind corners. To achieve this, pathways must be designed with direct routes, and all barriers, including landscaping and fencing, should be permeable for visibility. The use of mirrors and glass panels can enhance sight lines.

  Avoiding blind corners is essential to create spaces that feel safe and comfortable. Concealed areas or 'blind corners' can make users feel uneasy and deter them from maximising space utilisation. Neglecting 'blind corners' in design can lead to hidden areas that compromise safety and discourage use. Therefore, these spaces should prioritise openness and exposure to ensure users can navigate confidently and comfortably.

  Design Response for Melrose Park HS

  The high school design incorporates linear external walkways with direct visibility from the central courtyard, enhancing safety and security across the campus. Upper-level walkways feature perforated metal balustrades, ensuring transparency and enabling effective supervision from ground level.

  This design approach maintains clear sightlines throughout outdoor areas, minimizing blind corners and hidden spaces. By fostering a well-monitored and open environment, the layout provides a secure and supportive space for students while reinforcing the principles of safety and accessibility.

  Provide Entries Which Are Clearly Visible

  Providing clearly visible entrances is a fundamental aspect of designing spaces that are both accessible and secure. To meet this objective, entrances should be strategically placed in prominent positions, making them easily recognisable and accessible. Moreover, the design of these entrances should allow users to peer into the area before they physically enter it.

  Prominent entries serve a multifaceted purpose. Firstly, they enhance natural surveillance from the street, bolstering the overall safety of the area. Secondly, they foster a sense of security among users, granting them the confidence to enter the space with ease. Finally, they facilitate swift access for emergency services, ensuring rapid response times when the need arises.

  Consider allowing clear and well-placed signage at site entrances, exits, and throughout the school premises, all executed in strict accordance with SINSW standards. These measures collectively contribute to creating a safe and user-friendly environment.

  Design Response for Melrose Park HS

  The high school's design prioritizes clearly visible and strategically located entrances to enhance accessibility, security, and usability. Key considerations include:

  - Prominent Placement: Entrances are positioned in easily recognizable and accessible locations, ensuring they are visible from both the street and within the campus.

- Transparent Design: Entry points are designed to allow users to peer into the area before physically entering, fostering a sense of security and comfort.

These prominently placed entries serve multiple purposes:

- Enhanced Natural Surveillance: Visibility from the street ensures passive monitoring, bolstering safety and reducing the likelihood of antisocial behavior.
- User Confidence: A secure and welcoming entry design instills confidence in students, staff, and visitors when navigating the campus.
- Emergency Accessibility: Clear and open pathways to entrances facilitate rapid access for emergency services, ensuring swift responses when required.

To further support visibility and wayfinding, well-placed signage will be installed at all site entrances, exits, and throughout the premises. All signage will adhere to SINSW standards, ensuring consistency and clarity across the campus.

This approach integrates functional safety measures with intuitive design, creating a secure, user-friendly, and welcoming school environment.

Effective Lighting Design

Effective lighting is crucial for safety and security. To achieve this, lighting should avoid glare and dark shadows. Areas like entrances, exits, service areas, pathways, and car parks need to be well lit when in use during the evening and night.

Well planned lighting enhances safety and deters illegitimate users but also encourages legitimate users to use spaces after dark. It supports natural and formal surveillance. Good lighting should aim to enhance natural surveillance and visibility at night.

Design Response for Melrose Park HS

he lighting strategy for the project prioritizes safety, visibility, and security while adhering to CPTED principles. Assisted by our Electrical Engineer, Arup, the external lighting plan accommodates key safety and functional requirements.

Lighting will eliminate glare and shadows to ensure clear sight lines and safe use of entrances, exits, pathways, and car parks during evening and nighttime hours. It will enhance both natural and formal surveillance, deterring illegitimate activities and encouraging legitimate use of spaces. Specific measures include:

- Targeted Illumination: External lighting focuses on key areas such as covered walkways, car parks, and pedestrian pathways within the site boundary.
- Standards Compliance: The design follows Educational Facilities Standards & Guidelines (EFSG), AS/NZS 1158.3.1 for roads and public spaces, and AS 4282-1997 for controlling obtrusive lighting effects.
- Optimal Colour Temperature: All lighting is specified at 4000K, providing neutral, natural illumination that enhances visibility and promotes a sense of security. This temperature is particularly suited to educational environments, fostering well-lit and safe spaces.
- Light Spill Control: To prevent environmental and neighbour disturbances, luminaires with downward distribution and glare shields are specified, with boundary fittings directed away from adjacent properties.
    - External lighting will also include control systems to maintain security outside operational hours, with provisions for safe access and exit. The contractor will collaborate with stakeholders to refine strategies, balancing safety, functionality, and energy efficiency, ensuring the lighting design creates a secure and sustainable environment.

Ensuring Clear Sight Lines in the Carpark

Carparks, by their nature, can sometimes be perceived as unsafe. Thus, it is crucial for site and building layouts to prioritise easy access, clear signage, adequate lighting, and alignment with established safety strategies.

To enhance security and safety, ensure clear sight lines throughout parking areas so to allowing for natural surveillance. Avoid extensive parking expanses, and if they are necessary, provide additional surveillance measures such as security cameras. Access to elevators, stairwells, and pedestrian pathways should be highly visible, with no hidden recesses. Place disabled parking spaces in visible and convenient locations and ensure car parks are in areas observable by neighbouring uses.

Incorporate clear sight lines into the design is essential for facilitating natural surveillance and improving security. In the case of school buildings, efforts should be made to ensure both active and passive surveillance over new construction. Additionally, the positioning of new structures along the street frontage should maintain a high level of surveillance outside the school grounds.

Design Response for Melrose Park HS

The small car park, located beneath Block D, is enclosed on the south, north, and partially on the eastern sides by buildings. To enhance security, the western side, facing the road, will utilize natural surveillance from passing traffic and pedestrians, supported by CCTV coverage. Adequate lighting will be installed to eliminate shadows and blind spots.

The car park will be fully fenced and separated from the school grounds, with clear sight lines maintained throughout the area to facilitate natural surveillance. Disabled parking spaces will be positioned in visible, easily accessible locations for convenience and safety. Clear signage and straightforward access will further enhance usability and security.

Access Control

Access control treatments restrict, channel, and encourage people and vehicles into, out of and around the development. Wayfinding, desire-lines, and formal/informal routes are important crime prevention considerations. Effective access control can be achieved by using physical and symbolic barriers that channel and group pedestrians into areas, therefore increasing the time and effort required for criminals to commit crime. Natural access control includes the tactical use of landforms and waterways features, design measures including building configuration; formal and informal pathways, landscaping, fencing and gardens. Technical/Mechanical access control includes the employment of security hardware.

Defining Spaces for Restricted Entry

Defining spaces is crucial in conveying a sense of ownership and reduce unauthorised use or entry. This is achievable through physical and psychological barriers like fences, gardens, lawn strips, and varied textured surfaces. Clear boundaries serve the purpose of helping people recognise private property and inform passers-by when someone is trespassing or using the premises unlawfully. In essence, creating boundaries between private and public spaces is vital.

The effectiveness of fence design is centred around maximising natural surveillance from the street to the building and vice versa, while concurrently minimising area where intrudes may be hiding.

Design Response for Melrose Park HS

The high school employs a well-defined access control strategy to enhance security and manage entry. A 2.1-meter-high perimeter fence, as detailed in the landscape plans, creates a clear boundary for the secured area, separating public and private spaces. Transparent materials such as Corromesh fencing and Diplomat style (steel palisade) fencing are used to maximize natural surveillance, providing clear sight lines into and out of the school grounds. This design minimizes concealment opportunities, deters intruders, and fosters a sense of safety while maintaining a welcoming environment.

Key entry points are equipped with electronic access systems, including intercoms and key card mechanisms. Intercoms allow visitors to communicate with administrative staff for identity verification before entry is granted, while the key card system restricts access to authorized personnel only, reducing the risk of unauthorized intrusion.

Clear Building Identification

Clear building identification serves to prevent unintended access and aids individuals, including emergency vehicles, when locating specific buildings especially in urgent situations. In practical terms, this involves clearly displaying the street number, with a minimum height of 7cm, positioned between 0.6m and 1.5m above ground level, and made from durable materials, preferably reflective or luminous. They should also be unobstructed.

Design Response for Melrose Park HS

Within the school grounds, all buildings will be clearly identified in accordance with the SINSW standard signage guidelines. At the new high school in Melrose Park, prominent school identification signs will be placed at the main site entrance, as detailed in the architectural signage drawings. An architectural sign will also be installed at the public hall entry to support after-hours use, with smaller notification signs at other entry points to ensure consistency.

The property number will typically be mounted on the school letterbox, ensuring compliance with regulatory standards and aiding emergency responders in quickly locating the school during critical situations. These measures ensure that all buildings and entry points are easily identifiable, enhancing navigation and emergency response times within the campus.

Space / Activity Management

Space/Activity Management strategies are an important way to develop and maintain natural community control. Space management involves the formal supervision, control, and care of the development. All space, even well planned and well-designed areas, need to be effectively used and maintained to maximise community safety. Places that are infrequently used are commonly abused. There is a high correlation between urban decay, fear of crime and avoidance behaviour.

Design Response for Melrose Park HS

To ensure safety and maintain effective use of spaces, the new high school will implement security measures in alignment with the Security Design Guide developed by the SINSW School Security Unit (SSU). Access to the school will be monitored and controlled using security devices such as intercoms and remote locking systems. These measures are designed to minimize unauthorized access while maintaining convenience for legitimate users.

CCTV cameras will be strategically placed throughout the site as outlined in the SSU security brief. Vegetation will be carefully selected to prioritize low shrubs and high-canopy trees, minimizing potential concealment areas. Details on plant species and their placement can be found in the Landscape Design drawings prepared by NBRS – Landscape.

Due to the sensitive nature of school security, detailed documentation prepared by the SSU will not be publicly accessible, ensuring the integrity of the security measures is maintained. These strategies collectively promote a safe, well-managed environment that supports both community use and school security objectives.

CONCLUSION

The Crime Prevention Through Environmental Design (CPTED) principles form a comprehensive framework for the creation of safer, more secure public spaces. By emphasising Territorial Re-enforcement, Surveillance, Access Control, and Space/Activity Management.

Territorial Re-enforcement focuses on fostering community ownership and discouraging criminal activities by connecting people with space through visible markers. The inclusion of well-designed communal areas, transparent stairwells, and shared use of the school facilities. Additionally, promoting a positive image through prompt maintenance and community engagement contributes to a sense of pride and shared responsibility.

Surveillance strategies prioritise the creation of spaces with clear sightlines, visible entrances, and permeable security elements. The design responses, including the use of transparent fencing, visible entrances, and effective lighting, collectively enhance natural and mechanical surveillance, deterring potential criminal activities.

Access Control involves defining spaces through physical and symbolic barriers, as demonstrated by the placement of identification signs and transparent fences. The design ensures controlled access, increasing the effort and time required for potential criminals by incorporating visible entrances and utilising permeable security elements.

Space/Activity Management strategies, such as the promotion the use of CCTV monitoring. Design responses, including the strategic placement of vegetation and the choice of low shrubs, align with these strategies, minimising hiding opportunities and enhancing overall safety.

The design responses for Melrose Park High School effectively integrate CPTED principles, creating a secure, welcoming, and community oriented environment. The school aims to provide a safe place for students and extends its role as a community hub, fostering positive interactions and shared responsibility.

7.3.2 SITE SECURITY

In alignment with the SINSW Asset Management Unit (AMU) site security strategy, the following measures will be implemented to ensure effective perimeter security while maintaining a welcoming and aesthetically pleasing school environment:

- Building Edge as Security Barrier: The building edge will serve as a security barrier only at the public interface of the Hall on its southern and eastern sides and a small portion near the main entry. This minimizes fencing in prominent public-facing areas while maintaining security.
- Fencing with Landscape Buffer: Fencing along the western and southern boundaries will be offset by a minimum of 1 meter from the site boundary. This offset will accommodate a soft landscape buffer, softening the appearance of the fenced perimeter and enhancing the site's visual appeal.
- Sliding Gates with Access Control: Access to the staff car park will be secured by sliding gates equipped with access control and remote activation. These features will allow for efficient and secure vehicle entry while maintaining restricted access.

This strategy balances robust security with thoughtful design, ensuring both safety and a welcoming interface with the surrounding community.

Figure 59: Fencing diagram

7.3.3 SAFETY IN DESIGN

Safety in Design (SID) workshops have been carried out to identify the potential project risks from inception to completion. The SID assessment result in a list of potential project risks and the mitigation strategy. Project risks will be mitigated, design out or managed throughout the subsequent stages of the project.
Full site access will be granted during construction in Stage 1, with a staged development approach planned. The school will remain fully operational throughout the Stage 2 construction.

ROADS AND FOOTPATH

A new road in the west is currently under development, with construction expected to be completed by the end of this year. Additionally, the footpath on the southern side will be upgraded. There is a potential issue regarding discrepancies between the constructed levels and the planned levels.

DROP OFF AND PICK UP ZONES

Drop-off and pick-up zones are planned along the proposed road on the western boundary, on both sides of the main entrance, with an accessible drop-off zone to the north of the main entrance. Another drop-off zone is proposed along the existing Wharf Road, with access through the landscaped street buffer zone. Accessibility details for this area are yet to be finalized. A potential issue is that the pathway from the accessible drop-off zone to the SELU crosses the main pedestrian entry.

EMERGENCY VEHICLE ACCESS

Vehicular access is not provided to the main courtyard. Access to the service area adjacent to the staff car park provides the most direct route to the playing field and courts. A hardstand area will be available at the drop-off zones at the base of the main entry forecourt to facilitate ambulance and fire brigade access, with the fire brigade having access to the fire booster located in the northwest corner of the site. The kiss-and-ride zone on the east side is also available for use by emergency vehicles. Additionally, a hardstand at the entrance to the communal playing field will be provided for emergency use.

ADJACENT PLAYING FIELD

The adjacent playing field to the north will be utilized by the school and will serve as a stormwater detention basin for the broader precinct to the west, with levels sloping towards the school site. Access to the playing fields may be compromised during prolonged wet weather, and the grass surface could deteriorate more easily due to the entry points being the wettest areas.

STAFF CARPARK

Only a small portion of the staff car park is located on-site, with the majority situated on the nearby primary school grounds, approximately 250 meters away. To accommodate staff, designated drop-off zones will be signposted, allowing teachers to easily unload materials without having to carry heavy items over long distances. Additionally, the loading zone within the staff car park will be available for this purpose, ensuring greater convenience and reducing the burden of transporting bulky or heavy materials across the campus.

SITE SERVICES

A new substation will be required and is planned to be located along the Hope Street boundary.
A stormwater detention tank is proposed for installation beneath the games courts at the northern boundary, with access hatches positioned in the runoff zone. If not installed correctly, these hatches could present a potential trip hazard. The connection to the stormwater mains, currently in the planning phase, is proposed for the northwestern corner, with connection levels still under negotiation with the developer.

POTENTIAL NCC/BCA NON-COMPLIANCES

Potential NCC/BCA non-compliances typical of the Hub design include extended travel distances, which will be addressed through a Performance Solution. The current design presents a 22.5-meter distance to the point of choice (POC), 46 meters to the first exit, and 68 meters between exits. The placement of stairs is being reviewed to ensure they are within 6 meters of the building face. Additionally, the fire hydrant is not visible from the main entry due to trees and landscaping but will be positioned near the main vehicle entry.

NEW BUILDINGS:

Building Height

The design features open walkways to all levels, along with an open play area on Level 5.

Potential Issues

There are concerns that items could be thrown from the walkways on the upper levels and rooftop play area. Investigations are ongoing regarding the protection of walkways on Levels 3, 4, and 5. Additionally, there is a potential risk of climbing on these walkways.

SECURITY

Site Security

The site will generally be fenced off, with details to be addressed during the concept design stage. A perimeter fence will surround the site, except at the main entry, where the building façade will serve as a secure boundary. Additionally, the southern and eastern façades of the hall will act as barriers. Access to the Administration area will be provided directly from outside the secure line.

Building Security

Building security measures will also be developed during the concept design stage.

MAINTAINACE

Window Cleaning

Window cleaning strategies will be developed during the concept design stage. It is noted that windows can only be effectively cleaned from the ground for buildings up to two stories high.

Roof Access

Stair access will be provided to the roof of Block A for the Mechanical Plant and PV cells, Blocks B and C will be provided with standard ladder access points. Block D has a rooftop Playground area and will be accessible as such .

8.0 ARRIVAL AND MOVEMENT

The masterplan for the teaching and learning facilities features a 6-story structure (BLOCK A) facing Future Road on the western side in Stage 1, which will be expanded to the north with an additional 5-story structure (BLOCK D) along the same road in Stage 2. The space between Block A and Block C will form an entry plaza, preserving a view corridor from the town center.
The area beneath the future BLOCK D will house a small staff parking lot and a service/maintenance area, both accessible from Future Road. Vehicular access for deliveries, waste management, and staff parking is strategically located on the northern side of the site along Future Road, ensuring a clear separation from pedestrian access to the school.

8.1 PEDESTRIAN MOVEMENT

The main school entry plaza will address the between BLOCK A & D, maintaining the view corridor. The plaza is a generous outdoor coved area, which is designed as a temporary mass gathering point when students are funnelling through the main entry.
The following secondary entrances are being created to reduce the pressure off the main forecourt entry.
The Wharf Rd Enty across the reserve on the Eastern side.
The Norther entry connecting school to communal playing fields.
Public access to the Hall is located on the prominent SWE corner at the Wharf Road reserve.

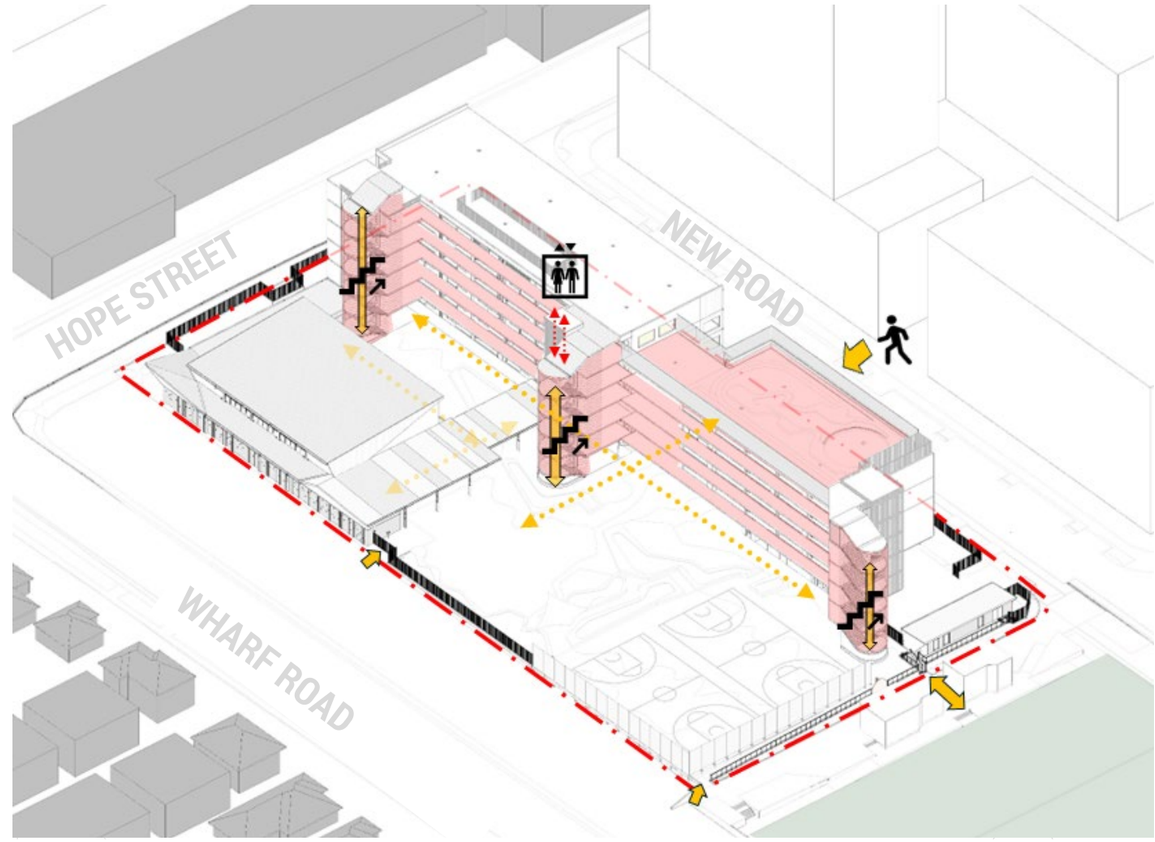


Figure 61 Pedestrian circulation (source:NBRS)

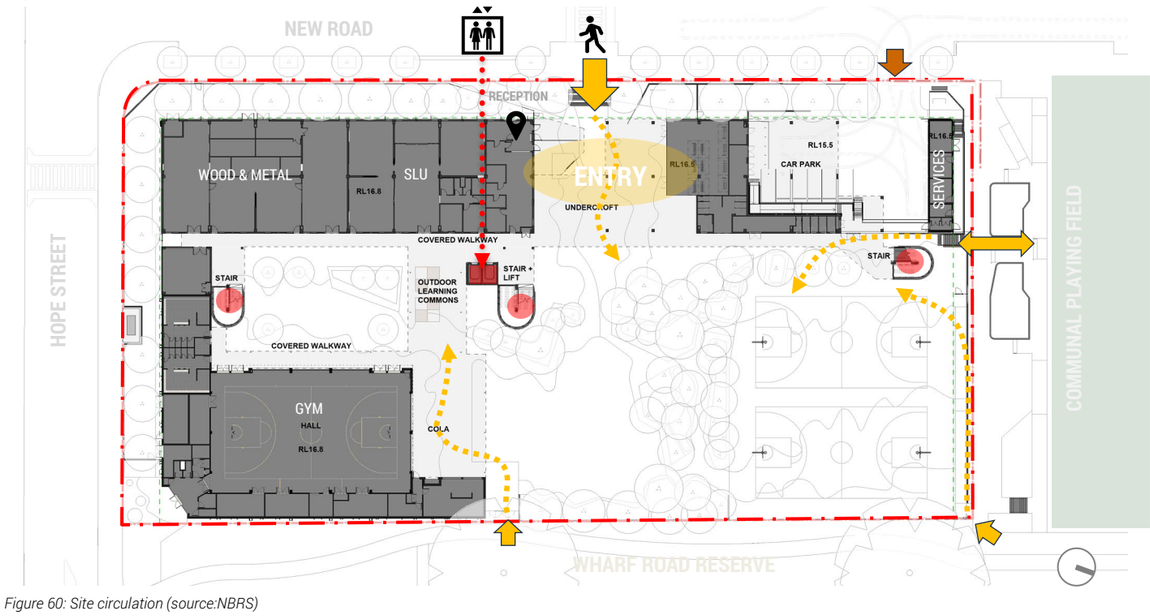


Figure 60: Site circulation (source:NBRS)

8.2 VEHICULAR MOVEMENT

The vehicular movement around and into a school is a crucial factor for consideration in school design. The Traffic Consultant, TTW has carried out traffic modelling to better understand the probable traffic behavior during the school pick hours. The following traffic planning considerations includes:

- A total of 20 Pick up and Drop off (PUDO) car spaces each 6m length will be provided, including 2 accessible.
- The Pick up and Drop off zones (PUDO along Wharf road will accommodate 10 spaces. The length of this area is still to be confirmed, with the potential of the Wharf Rd bus stop needing to move closer to the site. Ongoing discussions with Council are underway to confirm these details.
- New road in the west. 10 PUDO spaces including 2 accessible will be provided.
- The accessible drop of is located on the northern side of the pedestrian crossing to ensure the drop off zones are clearly separated.
- One courier parking spot will be provided.
- 5 staff carparking spots will be provided on the NW corner of the site, the balance of 39carparks will be provided on PS site approx.. 250 m away.
- Areas where teachers can temporary park and drop off materials before parking in the teachers carpark at PS , will be clearly signposted

8.3 DROP-OFF AND PICK UP

- A total of 20 Pick up and Drop off (PUDO) car spaces each 6m length will be provided, including 2 accessible.
- The Pick up and Drop off zones (PUDO along Wharf road will accommodate 10 spaces. The length of this area is still to be confirmed, with the potential of the Wharf Rd bus stop needing to move closer to the site. Ongoing discussions with Council are underway to confirm these details.
- New road in the west. 10 PUDO spaces including 2 accessible will be provided.
- The accessible drop of is located on the northern side of the pedestrian crossing to ensure the drop off zones are clearly separated.

8.4 BUS ZONES

There will be no dedicated School bus zones. There are two existing public Bus stops, one on Hope street and one on Wharf road.

8.5 VEHICLE PARKING

A small secure staff car park is located underneath Blocks D (stage 2 building) and is accessible from the new road at the northwest corner of the site.
Staff carparking on site is kept to a minimum to maximize free play area, providing 5 car parking spots inlusive of one accessible. Further 34 carparking spots will be provided on Primary school site that is approx. 250m away.

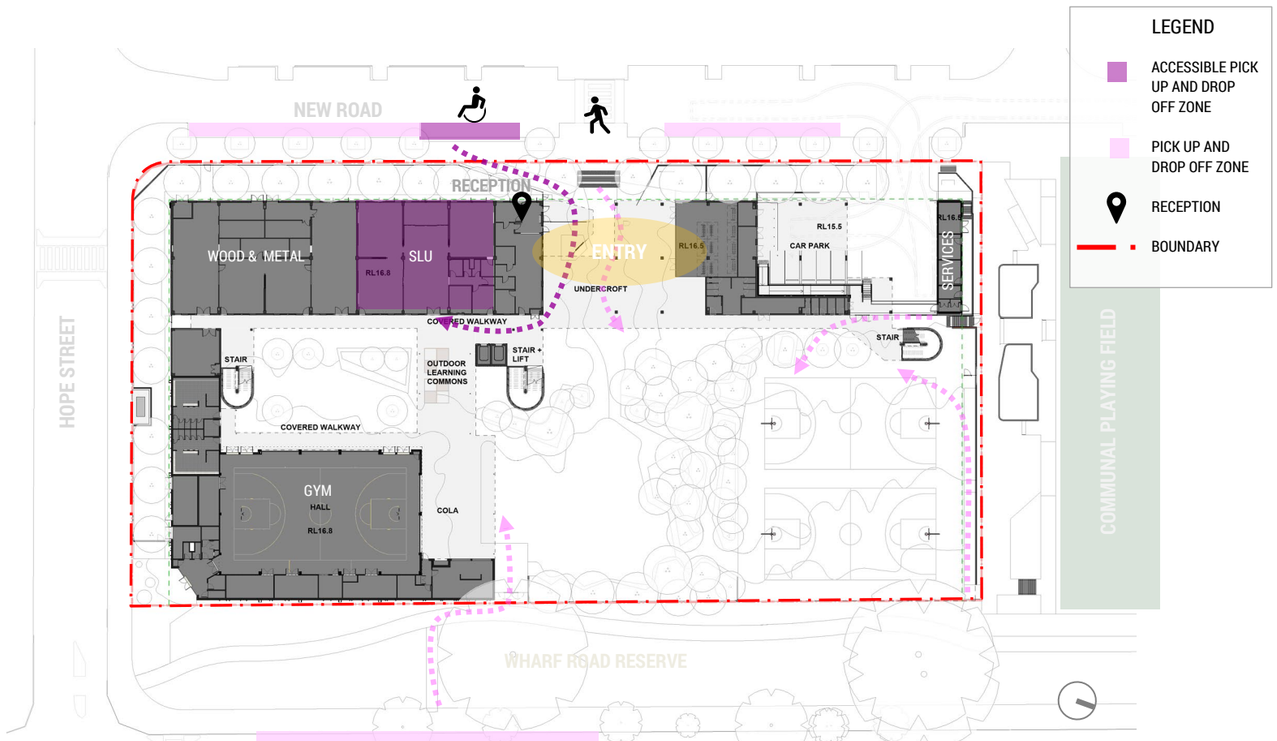


Figure 62: Pick up and drop off zones

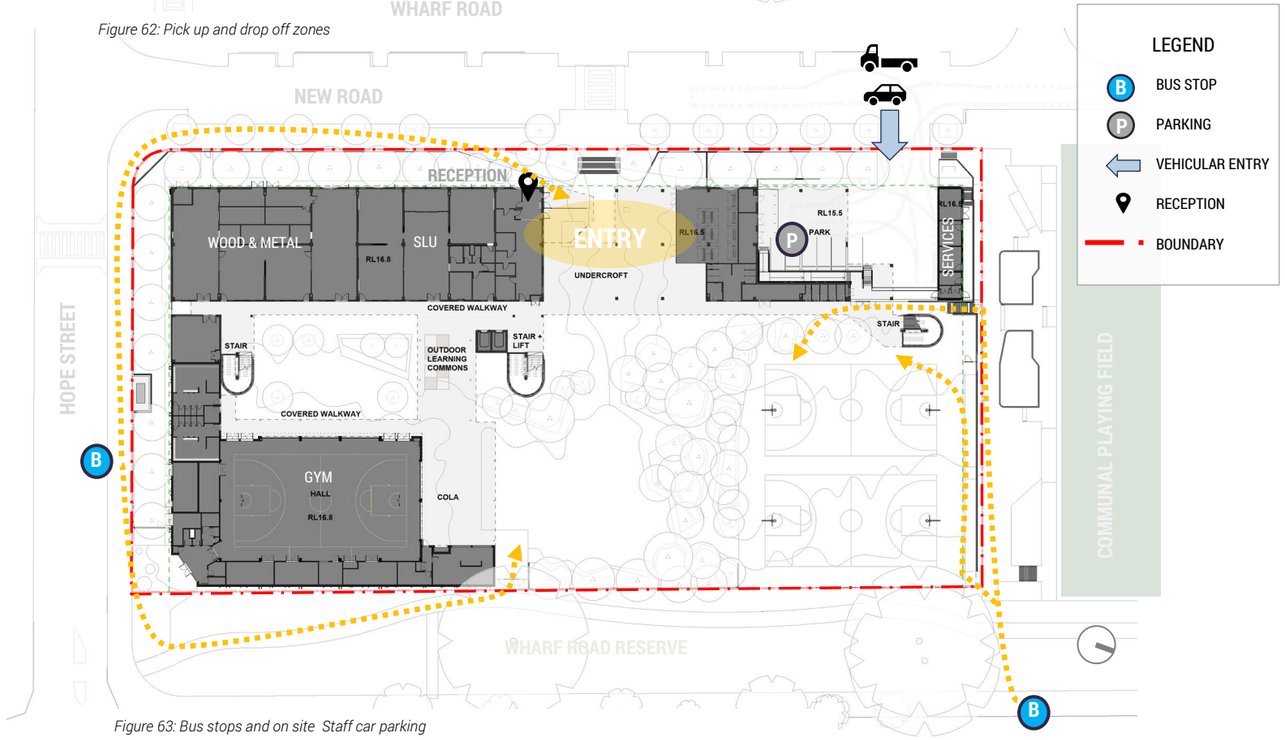


Figure 63: Bus stops and on site Staff car parking

8.6 EMERGENCY SERVICES VEHICLE ACCESS

Emergency access has been planned to accommodate ambulance and fire brigade services as close to the site boundary as possible, with the following provisions:

- Access to the service area next to the staff car park allows the closest route to the playing field and courts.
- A hardstand area will be provided at the drop-off zones at the base of the main entry forecourt for ambulance and fire brigade access. The fire brigade will have access to the fire booster located in the northwest corner of the site.
- The kiss-and-ride zone on the east side can also be used by emergency vehicles.
- A hardstand at the entrance to the communal playing field will be available for emergency use as well.

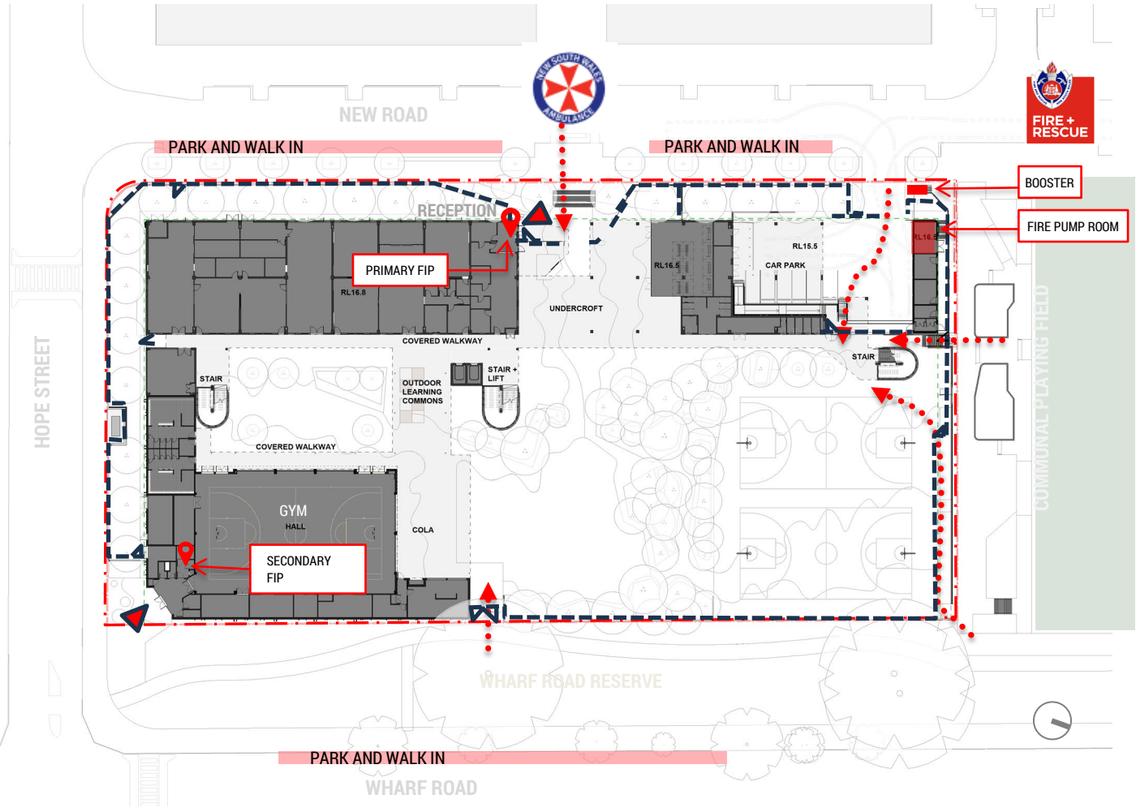


Figure 64: Emergency Access Plan (source: NBRS)

8.7 BIKE AND SCOOTER PARKING

Cycling is encouraged as one of the best modes of transport for students and staff travelling to school. Cycling promotes health and wellbeing. The high school will be equipped with student parking spaces at main entry points around the school as well as end of trip facilities and bike for staff. Within Melrose Park distict shared cycle and pedestrians' paths have been constructed to support this.
The Bicycle Parking rates and Provisions are as follows:

Stage	Student bike spaces	Staff bike spaces
Stage 1	56	6
Stage 2	100	8
Total	100	8

8.8 STUDENT END OF TRIP FACILITIES

The new high school in Melrose Park actively promotes cycling as a healthy and sustainable transportation option for students living nearby. Secure bike parking is provided within the school's perimeter fencing, offering a safe and convenient place to store up to 84 bicycles, which eliminates concerns about theft and encourages students to choose cycling. Additionally, shower facilities in the gym make it easy for students to freshen up after their ride.

Cycling to school offers many benefits, including improved physical health, reduced carbon emissions, and decreased traffic congestion during drop-off and pick-up times. It also fosters independence and responsibility as students navigate their local neighbourhoods safely. Moreover, cycling can be a social activity, allowing classmates to ride together and build a sense of community. By integrating infrastructure and facilities that support cycling, the school promotes active transportation and environmental awareness while enhancing the overall experience.

8.9 STAFF END OF TRIP FACILITIES

End-of-trip facilities, including showers, change rooms, and secure bike parking, play a vital role encouraging school staff to adopt sustainable commuting options like cycling or walking driving. These facilities make active transportation more practical and appealing, allowing staff "freshen up" upon arrival.

The following end-of-trip facilities have been designated for staff in Block A on Levels 3 and 4:

- 2 Unisex Accessible Shower Facilities
- 10 Lockers

Figure 66: Staff End of trip facilities on level 3 (above) and level 4 (below) , enlarged section of EOT on level 3

8.10 WASTE MANAGEMENT

The Operational Waste Management Plan (OWMP) outlines the strategies for waste handling, disposal, and collection to comply with the City of Parramatta Council's requirements. Its goal is to encourage responsible source separation and minimize landfill waste by implementing a streamlined and efficient waste management system.

Bin Quantities as follows:

Type	Size	Quantity	Static/Mobile
General Waste	1100L	4	Mobile
Recycling	1100L	3	Mobile

A private waste collection contractor will be engaged to service the waste and recycling bins according to an agreed schedule, aligned with the Department of Education's contracts with a private waste collection service. Waste consultants estimates that general waste and recycling will be collected five times per week.
On collection days, the waste collection vehicle will access the site via the future road, which is yet to be constructed. Collections must take place outside school hours as there is no designated loading bay. The vehicle will park near the bin room, where collection staff will retrieve and service the bins. Once emptied, the vehicle will exit the site in a forward direction onto the future road.

The bin areas will be equipped with adequate ventilation, lighting, bin washing facilities, and durable floor and wall surfaces, along with proper drainage systems.

8.11 SERVICES LOADING

A small, dedicated loading zone will be established within a fenced-off car park, with controlled entry via a driveway from the New Road. Access to this area is facilitated by stair and ramp connections within the school grounds, ensuring secure and efficient movement. The loading zone and car park are fully fenced off to prevent student access, maintaining a safe separation between operational activities and school spaces.

The driveway entry to the car park and loading zone will be remotely controlled, featuring strategically positioned intercom systems to manage access efficiently and securely. This design ensures streamlined operations while upholding safety and security standards.
Additional public signposted loading zone is proposed along Hope street. This will cater for currier deliveries and Wood and metal Hub deliveries with access gate in vicinity as shown in the diagram on the right.

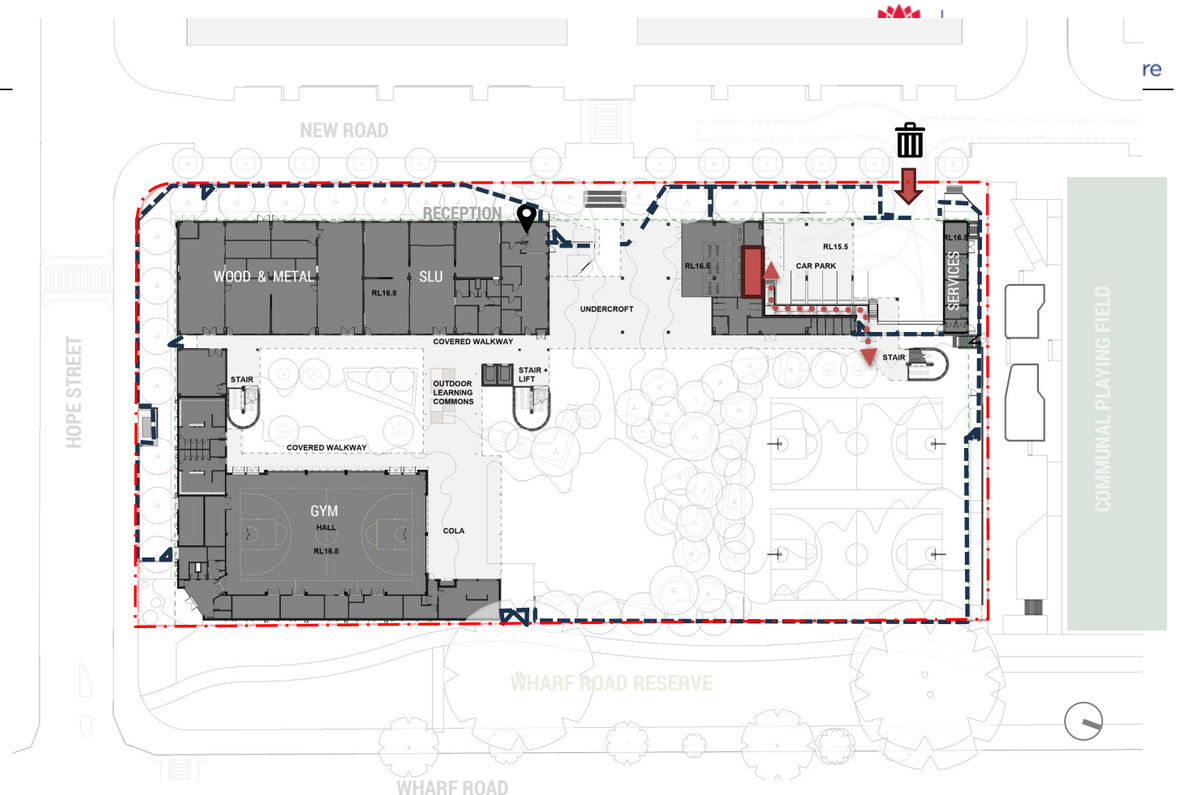


Figure 67: Waste room location (source NBRS)

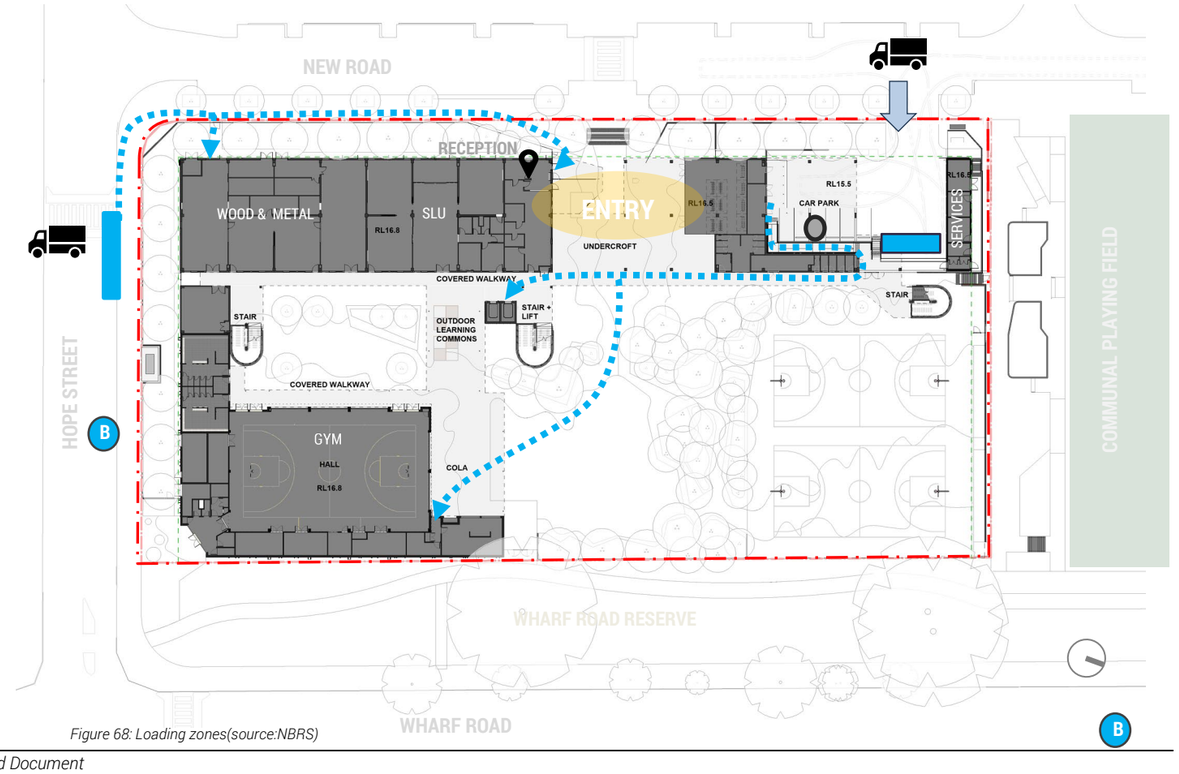


Figure 68: Loading zones(source:NBRS)

GAS STORAGE

All gas bottles will be stored externally in a lockable caged area with 3m separation in all directions between oxygen and fuel gases (i.e., acetylene and oxygen/argon), as per AS 4332 – 2004 The Storage & Handling of Gases in Cylinders. This Australian Standard sets out recommendations for safely storing, handling and managing compressed gas cylinders. AS4332 applies to gases that are classified as Class 2 substances. This includes: Gases that are compressed, liquefied or dissolved under pressure.

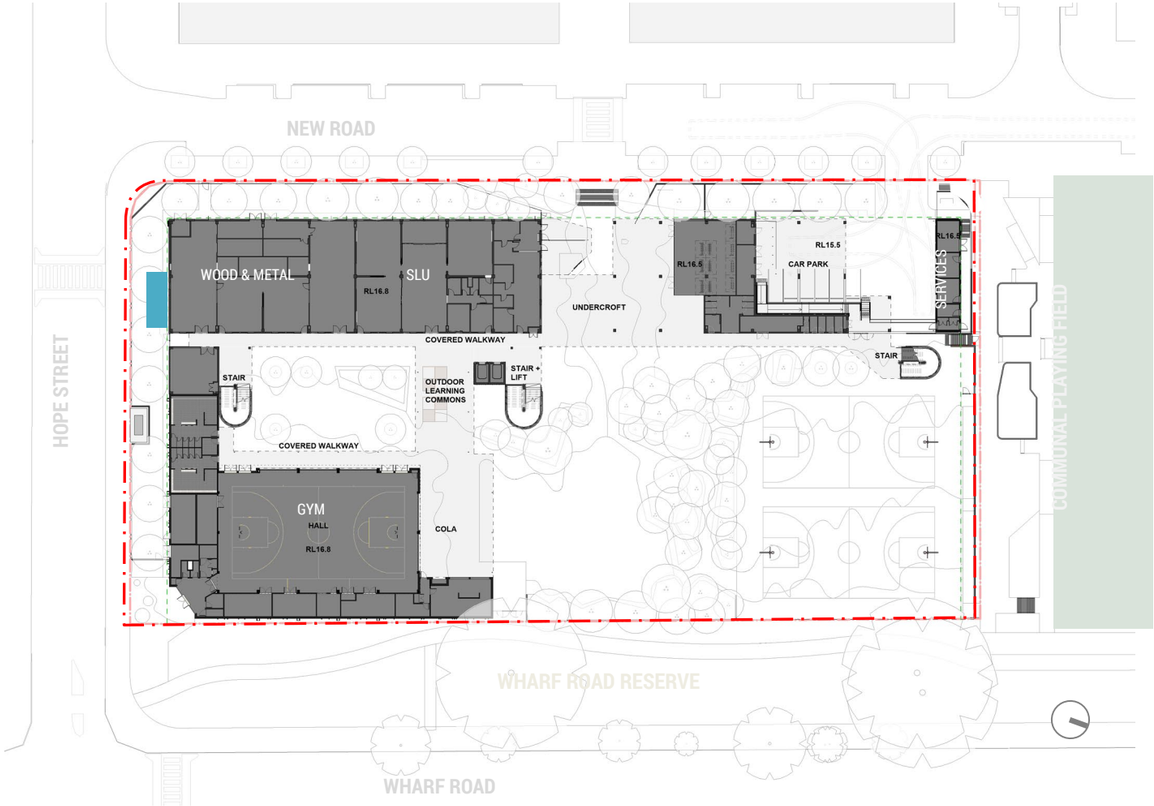


Figure 69: Gas storage location (source NBRS)

8.11.1 FAÇADE MAINTENANCE

The Davit Arm system is proposed for the northern, western, and southern façades due to the presence of setbacks designed for planting high trees, which render the use of a boom lift inefficient. This system will ensure safe and effective access for window cleaning and façade maintenance in these areas, overcoming challenges posed by the landscaping. The contractor will collaborate with the SINSW Maintenance and Asset Management Unit to design a solution that meets compliance standards and operational requirements.

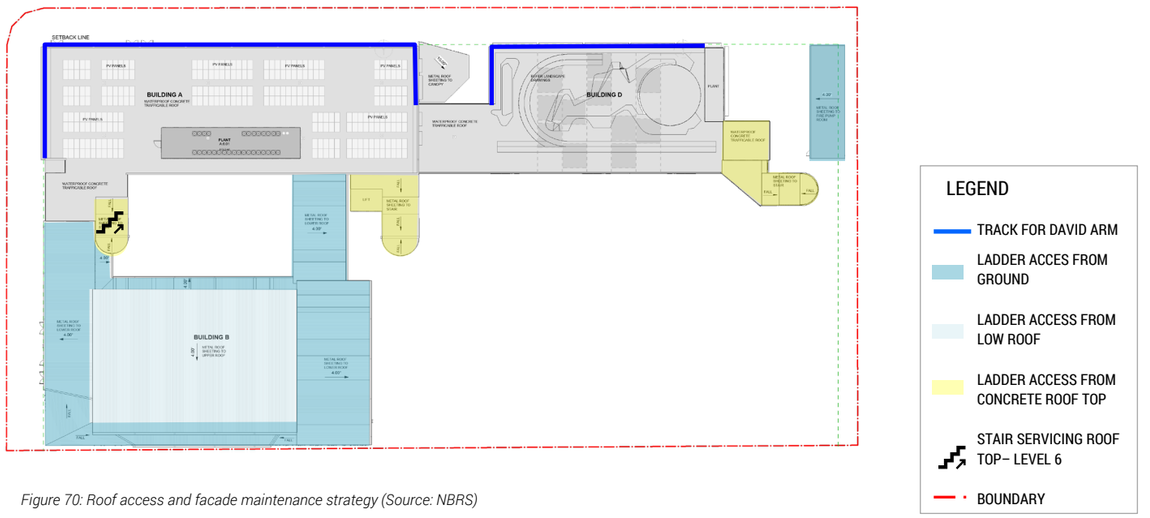


Figure 70: Roof access and facade maintenance strategy (Source: NBRS)

9.0 OUTDOOR OPEN SPACE AND LANDSCAPE

9.1 LANDSCAPE VISION

The landscape and open space design objective is to provide a proposal that balances the site's historical and cultural considerations with the practical needs of a high school. The design also aims to be visually appealing, engaging, and harmonious, creating a positive experience for students and staff, and fostering a sense of care and responsibility towards the environment. We have done that by appreciating the surrounding landscape and borrowing from the thematic identify with the Connecting with Country groups, the design language for the school aims to create a particular language based on the shapes, colours and symbols from the site.

9.2 LANDSCAPE DESIGN PRINCIPLES

SITE RESPONSE, AESTHETICS AND IDENTITY

The design borrows from the site preliminary ideas of the Connecting with Country Strategy on shapes, colours and mood of the surrounding landscape.
The design should be visually appealing, engaging, and harmonious, creating a positive experience for students and staff, and fostering a sense of care and responsibility towards the environment.
Appreciating the surrounding landscape and borrowing from the thematic identify with the connecting with country groups, the design language for the school aims to create a particular language based on the shapes, colours and symbols from the site.

RESTORE LANDSCAPE

- Planting palette that focuses on reintroducing and restoring native planting as well as appropriate in a school environment.
- Planting selections are responsive to local environment, with opportunities to provide shade and reinstate the local habitat.
- Maximise mature canopy coverage.
- Planting to accommodate the varying climate conditions and requires low maintenance and low water use.
- Provide different types of habitats for local wildlife through the succession of trees and planting.

SPACE-EFFICIENT DESIGN

- When space is limited, it's crucial to maximize the utility and functionality of every square meter, not only in the ground floor but also in the rooftops.
- Maximize multi-functional and adaptable spaces that can be used for teaching, learning, socialising and events.

DEFINING ZONES OF PLAY SPACE

- Ensure that we provide Active, Creative, Ball Games, Passive and Discovery Areas within the ground floor and the roof tops.
- Flexible outdoor learning spaces to encourage interaction with nature. These include amphitheatres, shaded seating areas, and small-scale gathering spaces in the roofs.
- Other gathering areas will provide shaded, comfortable spaces for socializing and relaxation, such as benches, picnic tables, and other outdoor furniture.

INCREASE GREEN PRESENCE AND SUSTAINABILITY

- Design to maximise mature canopy coverage without compromising play area.
- Provide WSUD initiatives to mitigate heat island effect, treat surface water runoff, provide shade, and mitigate the visual impact.
- Planting to be used as soft buffer to delineate different types of spaces.
- Use native and drought-tolerant plants to reduce water usage and maintenance. We will also choose plants that offer seasonal interest with varying colors, textures, and blooms throughout the year and support local wildlife
- Implement on the roof vegetable gardens, native plant gardens, and sensory gardens that can be used as educational tools for science and environmental studies.
- Include informative signage to educate students about the various plant species, sustainability features, and local ecosystems.

SAFETY AND ACCESSIBILITY

- Ensure that pathways are wide, well-lit, and slip-resistant. Consider accessible routes for students with disabilities.
- Design open spaces that allow for natural surveillance to enhance security. Avoid hidden corners and ensure clear lines of sight.

9.3 PROPOSED LANDSCAPE DESIGN

9.3.1 GROUND FLOOR

The landscape design integrates cultural sensitivity with the educational and functional needs of the school. By incorporating shapes, colours, and symbols inspired by the site's context, it ensures the design resonates with its natural and cultural setting, seamlessly aligning with the Connecting with Country strategy.
The Landscape Ground Floor illustrates the broad landscape design proposal for the new high school.

The design comprises in an open play area enclosed by the school buildings along the west and the south sides and is open to the Wharf Rd Gardens Reserve to the East and to the adjacent playing fields to the north. The ground floor is relatively flat with the lowest part of the site towards the north boundary. The main areas of the design are:

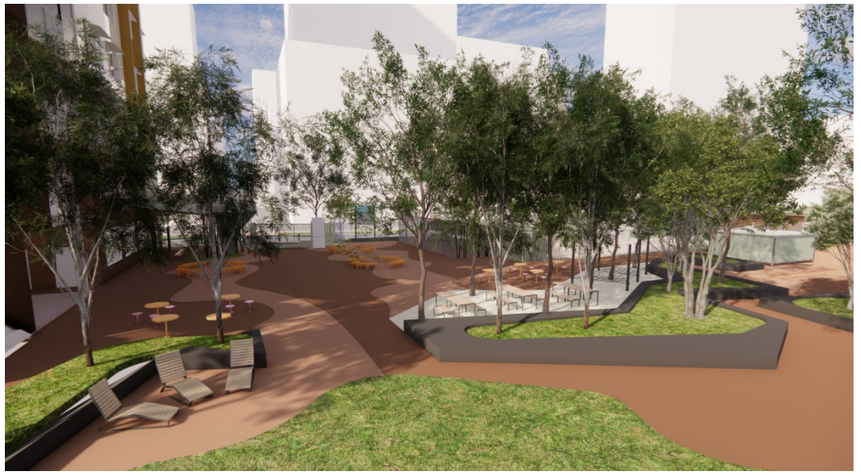
- 1) The **Entry Plaza** Located in axis to the link to the new town centre and serves as an inviting threshold that reflects the school's identity and fosters a sense of belonging. The entry canopy provides an interesting design that gives weather protection while serving as focal points. This space also includes seating areas and small gathering points. It is also where you access the bike parking.
- 2) The Lawn is a spacious, open grass area situated in front of the Hall and the Canteen. It provides a space for students to relax and recharge, mitigates the urban heat island effect by introducing natural cooling through grass and shade, and serves as a versatile, green space adaptable for various activities, from casual gatherings to organized events.
- 3) The Gardens around the Lawn are a mix of raised planters and trees planted in paving. These create defined areas and enhance the aesthetic appeal of the space. Diverse seating arrangements support multiple uses, including outdoor learning and small group discussions. These planted areas also Incorporates **indigenous and sensory plants**, fostering a connection to the local environment and engaging the senses through texture, colour, and fragrance. A shade sail structure has been incorporated into the garden to provide immediate amenity and shading from day one.

Landscape concept Plan – Ground Floor Stage 2

- 4) Multipurpose courts. Positioned on the northern side of the school to minimize interference with quieter zones and other school activities. Dedicated to hosting ball games and the most active recreational activities within the school, they provide linemarking for basketball, netball, volleyball and tennis.

- 5) The courtyard is a more enclosed space between the Hall and classrooms building (block A). It is designed to support a variety of learning activities, from structured group lessons to informal, creative exploration.

- 6) Large native trees have been planted in the 6 metre setback to Hope Street and the New Road. The species suggested are Eucalypus crebra, moluccana and saligna. Although they are considered large trees, they are an appropriate selection for a planted setback where is not mean to be accesible. This is also in accordance with Parramatta City Council advice and consistent with the Melrose Park Public Domain Guidelines. These generous setbacks provides various benefits, including aesthetic enhancement, noise reduction, and privacy and a more pleasant street interface. Fence lines sit within the landscape to soften the fence. They are also articulated with the entries to reduce the visual impact along the streets.

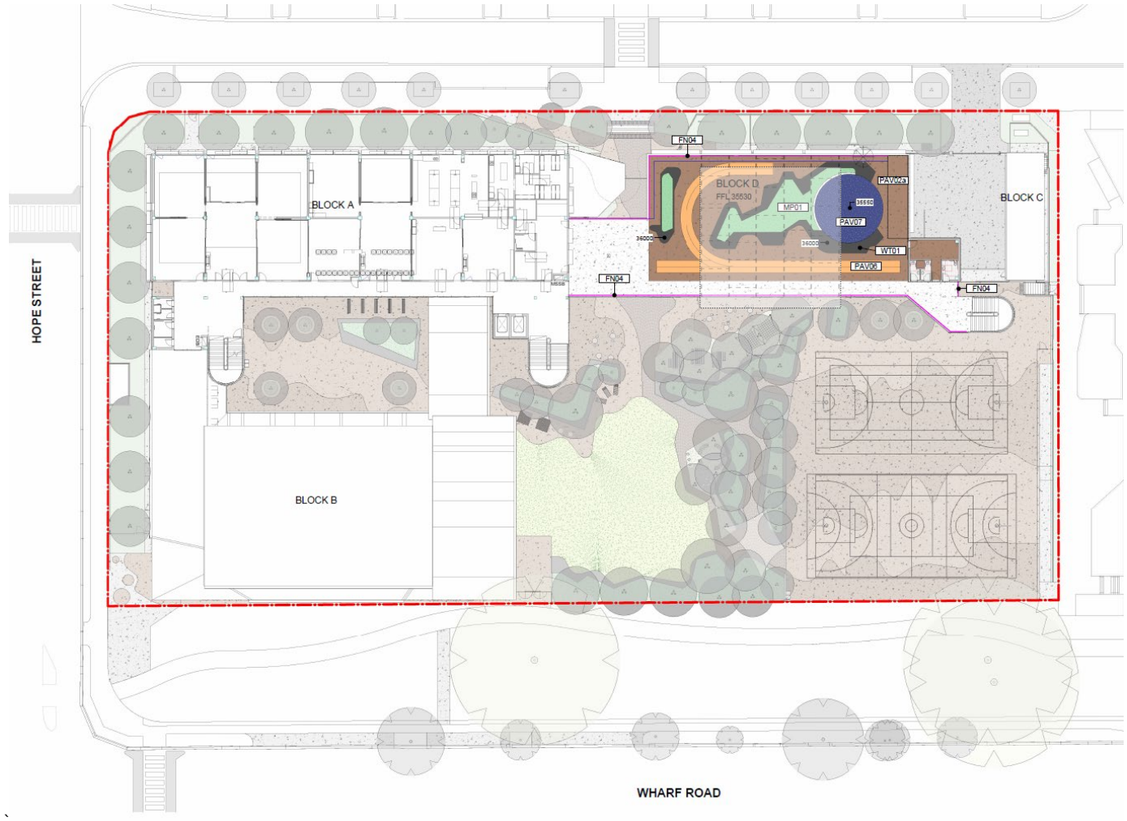


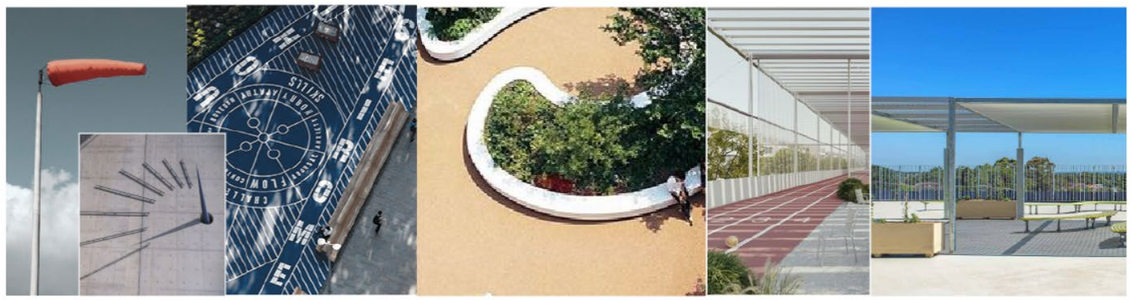
9.3.2 STAGE TWO (GROUND FLOOR AND ROOF top terrace)

In Stage 2, the ground floor will largely be retained, with minimal changes to the existing layout. The bike parking area will be expanded to accommodate the increased number of students, supporting the school's commitment to sustainable transportation. To allow for the construction of Block D, the planting that currently separates the bike parking from the waste storage area will be removed. Outdoor furniture, planting, and retaining walls have been designed to remain unaffected by Stage 2, ensuring continuity and cost efficiency.

With the construction of Block D, a rooftop play area will be introduced to provide the additional play space required for the growing student population. This area will focus on creative and discovery-based play, offering opportunities for exploration and imaginative activities. The rooftop play area will feature a large shade structure (shown as dash line in Roof Terrace Plan), ensuring it is usable in various weather conditions and providing protection from the elements. The design of this space follows the principles of the Connecting with Country strategy, drawing inspiration from sky knowledge and weather interpretations. The themes are reflected in the use of culturally relevant symbols, colours, and materials, creating a space that fosters cultural appreciation and aligns with the site's natural and cultural narratives.

Landscape Concept Plan - Ground Floor Stage 2





Landscape concept Plan – Roof Terrace Stage 2

9.4 CONNECTING WITH COUNTRY

Connecting with Country has been at the forefront of the landscape architectural design since the Masterplan stage through to the current proposed design. From research and consultation conducted by NBRS, CWC consultants and representatives, several key CWC themes have been emerged and form a strong framework for incorporating Connecting with Country elements within the design.

The following site plan features the extent of Connecting with Country themes that have been integrated in landscape design.

1 Overall native planting strategy
- 1a Eucalyptus Robusta, Eucalyptus Cebra, Large trees in the perimeter
- 1b Mangroves (patterns in paving and colour palette in paving)

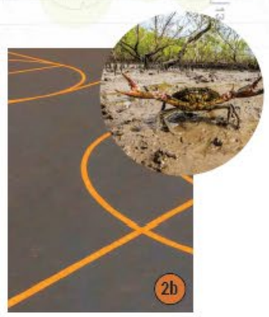
2 Animal references
- 2a Snapper fish (opportunity to patterns on the permeable paving)
- 2b Mud crab (interpretation by using splashes of their feature colour in the linemarking)
- 2c BAT - Grey-headed flying fox (opportunity for their interpretation on the shade structure)

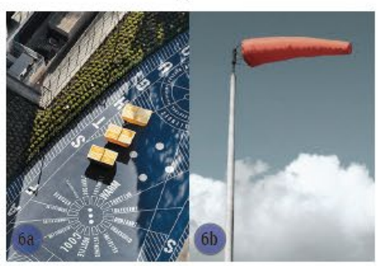
3 Yarning Circle

4 Bush tucker/medicinal plants

5 Acknowledgment of Country sign

6 Sky knowledge and seasonal changes
- 6a Sky representation in the paving and or/opportunity for the underside of the shade structure
- 6b Wind socket/ other measuring weather devices for educational opportunities





9.5 PROPOSED MATERIAL TONES AND PALETTE

The material palette in the landscape design has been chosen to complement the architectural built form's materiality. In addition to interpreting some of the Connecting with Country themes, the landscape design also utilises materials to delineate spaces and break down large areas. These are the principles that have informed the material palette selection:

The use of materials for interpretive design and reflect some of the Designing with Country themes.
Ways to achieve aesthetically pleasing design outcomes.
The standard and quality for materials used on school projects to establish an achievable benchmark.
The use of materials to delineate spaces.

Materials Palette selection (Image source: NBRS)

9.6 DESIGN ANALYSIS

The following diagrams illustrate the main open space calculated considered in the design and relevant at this point of the concept.

5.1.1 OPEN PLAY SPACE

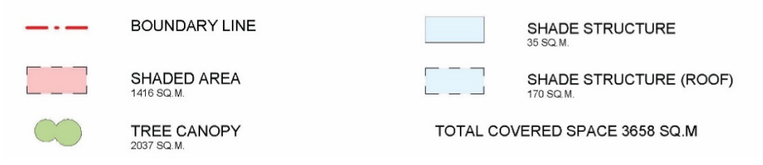
Open Play Calculation Area

Unencumbered play area typically refers to a designated space or area that is free from obstacles, obstructions, or hazards, where children can engage in unstructured and spontaneous play. The current outdoor design, as shown in orange in Figure above, provides 4,419 sqm which equals to 6,29 m2 per student in Stage 2 and 10,15 m2 per student in Stage 1 (including the Gymnasium)
Additional 4 m2 of play space per student is provided in the Sport Field adjacent to the North which will be subject to a joint use agreement between the school and City of Parramatta Council.

	SCHOOL SITE	ADJACENT RESERVE	TOTAL	EFSG REQUIREMENT
STAGE 1 – 560 students	10,15 m2/student	4 m2/student	14,29 m2/student	10 m2/student
STAGE 2 – 1000 students	6,29 m2/student	4 m2/student	10,29 m2/student	10 m2/student

5.1.2 TREE CANOPY AND SHADED AREAS

Canopy cover diagram



When designing a high school site, it's essential to achieve a balance between various needs, including buildings, outdoor play areas, sports facilities, and services areas. We have optimised for design features that maximize tree canopy coverage while also considering the aesthetics and functionality of the space.
Considering the total area of the site (9,918 m2), the proposed designed tree canopy cover is 3,658 m2, which equals **36%** of the total site.
NOTE: These calculations have considered an average canopy size of 3.5 m diameter for medium size and 6 m for large size.

9.7 SECURITY AND ACCESS

The fence and security diagram (Figure below) illustrates the broad approach to the fencing alignment, gates and types of location and access points.

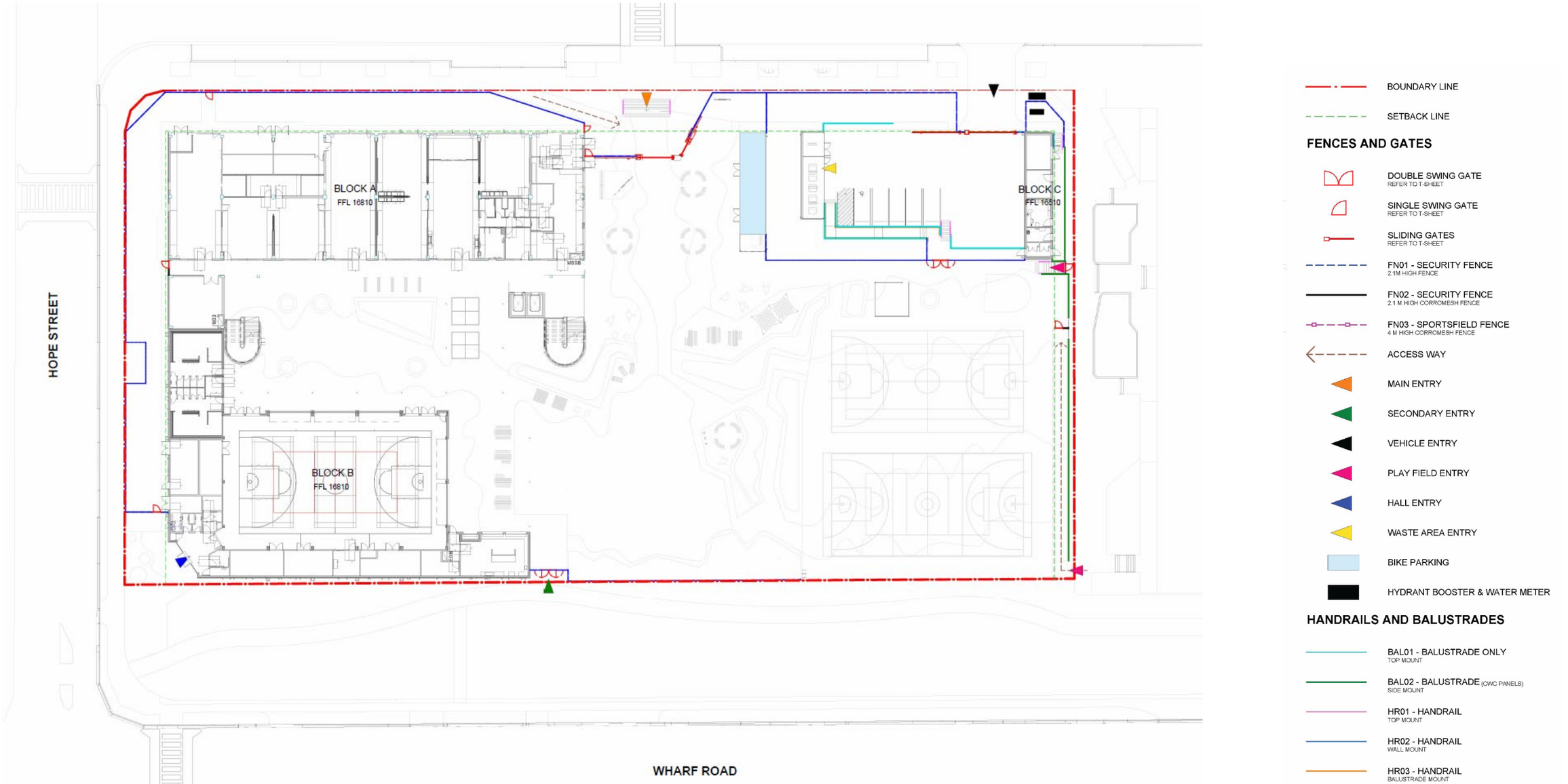


Figure 71 – Fencing Plan

9.8 PLANTING DESIGN

The planting selection for this project is based on the Ironbark and Blue Gum Forest, Mangrove community and Sheoaks. This palette has been distributed across the site to adapt to shade, wind and sunlight. Their growth habits, colours, and textures have been also considered to create a visually pleasing and cohesive landscape as well as responding to some of the Connecting with Country themes.

5.1.3 UNDERSTOREY PLANTING

Figure 72 – Planting Zones Plan

PLANTING SCHEDULE - SHRUBS

ID	Botanic Name	Common Name	Pot Size (mm)	Density	Ratio *	Quantity*
ZONE 1: ENTRY PLANTING						
ACAlin	*Acacia linifolia*	White Wattle	300	3	5%	20
CARapp	*Carex appressa*	Tall Sedge	tubestock	6	10%	79
POAlab	*Poa labillardieri*	Common Tussock Grass	tubestock	6	5%	39
LOMtan	*Lomandra tanika*	Lomandra longifolia 'LM300'	tubestock	6	10%	79
VIOhed	*Viola hederacea*	Native Violet	tubestock	6	10%	79
LEPpol	*Leptospermum polygalifolium*	Yellow Tea Tree	300	3	5%	20
BACmyr	*Backhousia myrtifolia*	Grey Myrtle	200	4	5%	26
PULvil	*Pultanea villosa*	Hairy Bush-pea	200	4	5%	26
BANspi	*Banksia spinulosa*	Hairpin Banksia	200	4	5%	26
GREjun	*Grevillea juniperina*	Prickly Spider-flower	200	4	5%	26
GREbro	*Grevillea Bronze Rambler*	Toothbrush Grevillea	200	3	5%	20
SYZlue	*Syzygium luehmanii*	Riberry	300	2	5%	13
THEtri	*Themeda triandra*	Kangaroo Grass	tubestock	6	5%	39
				Subtotal	80%	491
ZONE 2: COURTYARD GARDEN						
CARapp	*Carex appressa*	Tall Sedge	tubestock	6	8%	136
POAlab	*Poa labillardieri*	Common Tussock Grass	tubestock	6	8%	136
LOMtan	*Lomandra tanika*	Lomandra longifolia 'LM300'	tubestock	6	8%	136
FICnod	*Ficinia nodosa*	Knotted Club-Rush	tubestock	6	8%	136
LEPpol	*Leptospermum polygalifolium*	Yellow Tea Tree	300	4	5%	57
GREmol	*Grevillea juniperina 'Molonglo'*	Molonglo Magic	300	4	5%	57
BANspi	*Banksia spinulosa*	Hairpin Banksia	300	4	5%	57
GOOova	*Goodenia ovata*	Hop Goodenia	150	5	5%	71
CHRapi	*Chrysocephalum apiculatum*	Common Everlasting	150	5	5%	71
ANIora	*Anigozanthos 'Orange Cross'*	Kangaroo Paw	300	6	5%	85
THEtri	*Themeda triandra*	Kangaroo Grass	tubestock	6	6%	102
Planting for shaded planter in courtyard						
DICrep	*Dichondra repens*	Kidney Weed	tubestock	6	6%	102
ADIaet	*Adiantum aethiopicum*	Maidenhair Fern	150	6	6%	102
BLEcar	*Blechnum cartilagineum*	Gristle Fern	150	5	5%	71
CALdub	*Calochlaena dubia*	Soft Bracken	150	4	5%	57
ASPaut	*Asplenium australasicum*	Birds nest fern	150	3	5%	43
LICram	*Licuala ramsayi*	Australian Fan Palm	300	3	5%	43
				Subtotal	100%	1,463
ZONE 3: PERIMETRE PLANTING						
CARapp	*Carex appressa*	Tall Sedge	tubestock	6	10%	545
POAlab	*Poa labillardieri*	Common Tussock Grass	tubestock	6	10%	545
LOMtan	*Lomandra tanika*	Lomandra longifolia 'LM300'	tubestock	6	10%	545
FICnod	*Ficinia nodosa*	Knotted Club-Rush	tubestock	6	10%	545
LEPpol	*Leptospermum polygalifolium*	Yellow Tea Tree	300	4	10%	364
THEtri	*Themeda triandra*	Kangaroo Grass	tubestock	6	10%	545
ACAlin	*Acacia linifolia*	White Wattle	300	4	10%	364
BACcit	*Backhousia citriodora*	Lemon Myrtle	300	4	10%	364
BORpol	*Boronia polygalifolium*	Milkwort Boronia	200	5	10%	455
PULvil	*Pultanea villosa*	Hairy Bush-pea	200	5	10%	455
				Subtotal	100%	4,727
ZONE 4: INDIGENOUS GARDEN						
ADEser	*Adenanthos sericeus*	Woolly bush	150	4	5%	15
MACint	*Macadamia integrifolia*	Macadamia	300	2	5%	8
BACcit	*Backhousia citriodora*	Lemon Myrtle	300	2	5%	8
SYZlue	*Syzygium luehmanii*	Riberry	200	2	5%	8
SANacu	*Santalum acuminatum*	Quandong	150	4	5%	15
MELalt	*Melaleuca alternifolia*	Narrow leaved paperbark	200	4	5%	15
CITaus	*Citrous australasica*	Finger lime	300	2	5%	8
EREniv	*Eremophila nivea*	Emu Bush	150	4	5%	15
ATRnum	*Atriplex nummularia*	Old Saltbush	150	4	3%	9
ALPcae	*Alpinia caerulea*	Native Ginger	150	6	5%	23
HIBasp	*Hibbertia aspera*	Rough Guinea Flower	150	6	5%	23
KUNamb	*Kunzea ambigua*	Tick Bush	150	6	5%	23
VIOhed	*Viola hederacea*	Native Violet	tubestock	6	10%	46
APIann	*Apium annum*	Sea celery	150	4	4%	12
MENaus	*Mentha australis*	Native River Mint	150	4	5%	15
THEtri	*Themeda triandra*	Kangaroo Grass	tubestock	6	8%	37
LOMtan	*Lomandra tanika*	Lomandra longifolia 'LM300'	tubestock	6	10%	46
EUCcin	*Eucalyptus cinerea*	Silver Dollar Tree	150	4	5%	15
				Subtotal	100%	343
ZONE 5: ENTRY PLANTER						
ADIaet	*Adiantum aethiopicum*	Maidenhair Fern	150	4	25%	15
BLEcar	*Blechnum cartilagineum*	Gristle Fern	150	4	25%	15
CALdub	*Calochlaena dubia*	Soft Bracken	150	4	25%	15
LICram	*Licuala ramsayi*	Australian Fan Palm	300	3	25%	11
				Subtotal	100%	56
ZONE 6: TURF						
	Buffalo Sir Walter					
				Subtotal	100%	580 SQ.M.
				MASS PLANTING TOTAL		7,080
NOTE:						
*Plant quantities are subject to detail design and might change						

9.8.1 TREE PLANTING

- Total of 72 New Trees – 200L and 100 L trees
- Contract grown trees will be utilised to ensure larger trees than typical will be able to be installed for a greater day one impact.
- Medium to large canopy trees are proposed to target the canopy coverage requirement, as well as clustering tree planting to provide significant areas of canopy

PLANTING SCHEDULE - TREES

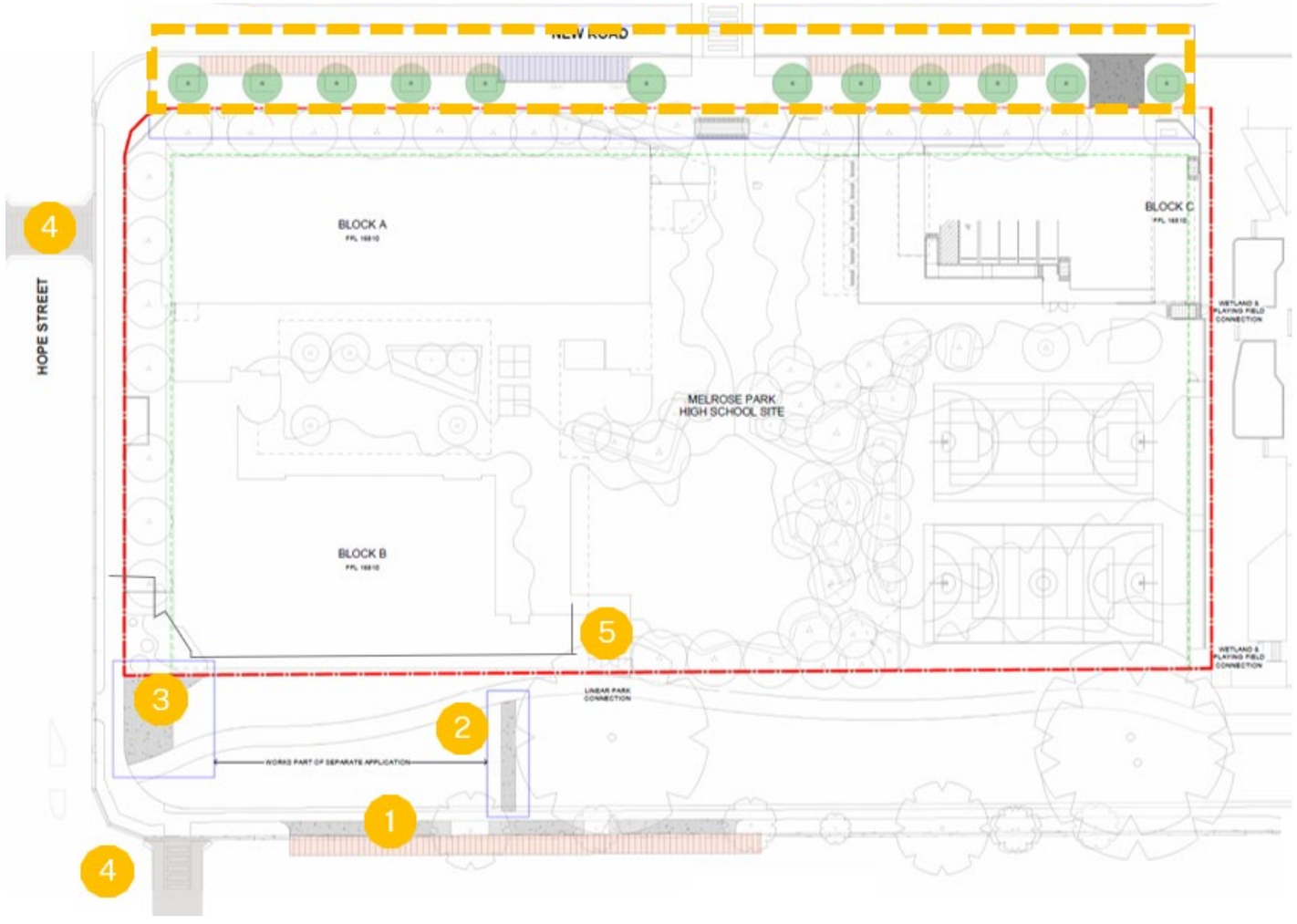
Code	Botanical Name	Common Name	Pot Size	Count
ACAflo	Acacia floribunda	Gossamer wattle	200L	8
ANGcos	Angophora costata	Smooth-barked Apple	200L	10
ANGflo	Angophora floribunda	Rough-barked Apple	200L	3
BANeri	Banksia ericifolia	Heath-leaved Banksia	200L	6
CASgla	Casuarina glauca	Grey (Swamp) She-oak	200L	3
ELAret	Elaeocarpus reticulatus	Blueberry Ash	200L	2
EUCcre	Eucalyptus crebra	Narrow leaved Ironbark	200L	4
EUCmol	Eucalyptus moluccana	Grey Box	200L	10
EUCnic	Eucalyptus nicholii	Narrow leaved Peppermint	200L	6
EUCsal	Eucalyptus saligna	Blue Gum	200L	6
LAGind	Lagerstroemia indica	Crepe Myrtle	200L	4
MACint	Macadamia integrifolia	Queensland Nut	200L	3
MELlin	Melaleuca linariifolia	Snow in Summer	200L	7
Grand total				72

Figure 73 – Tree Plan

9.9 PUBLIC DOMAIN

The public domain works include includes the following works:

-The works along the New Road to the West are being coordinated with Sekisui House (the developer) to integrate essential infrastructure for the new high school into their delivery scope. These works include the design and construction of the kiss-and-drop zones (including accessible kiss-and-drop), courier delivery zone, and the driveway leading to the waste management and parking area. The scope also encompasses widening the footpath and repositioning street trees to align with the overall streetscape improvements. The goal is to ensure these elements are seamlessly incorporated into the developer's plans.
Other public domain works proposed out of the school site boundary are indicated below:



1. Extend the width of the footpath along Wharf Rd along the kiss and drop. This Kiss and drop is only line-marking on the road
2. New path across the Garden Reserve to connect with the school. This paving is subject to separate planning pathway related to DA/459/2024
3. Extent of paving to allow easier arrival to the Block B entry. The aim is to enhance the civil corner with a wider plaza. This paving is subject to separate planning pathway related to DA/459/2024
4. New pedestrian crossings
5. Small additional paving to connect the path along the Garden Reserve with the school Entry. This paving is subject to separate planning pathway related to DA/459/2024

Figure 74 – Public Domain Works

9.10 CPTED Through Landscape

Designing open spaces in school sites with security in mind is crucial for creating environments that are safe and welcoming. Here are some landscape open space strategies we have considered:

Clear Sightlines:
The open space and the outdoor play areas are designed with clear sightlines to promote visibility an avoid creating hidden or secluded areas where potential security risks could go unnoticed.

Natural Surveillance:
We have used natural surveillance principles such as strategically placed outdoor furniture and terraced spaces, open and central gathering spaces, elevated terraces that allow staff to observe the open space easily. In addition, all the buildings have facades overlooking the open space.

Well-Maintained Landscaping:
Keep landscaping well-maintained to eliminate potential hiding spots. Trim shrubs and trees and ensure that there is a clear line of sight through the open space.

Regular Maintenance Inspections:
Conduct regular inspections of the open space to identify and address maintenance issues promptly. A well-maintained space is less likely to attract unwanted activities.

Effective Fencing Design
The high school design includes a single line of 2.1 high perimeter fencing to secure the site and buildings from vandalism. It is located 500 mm offset from the boundary line, in the planting area, to soft its appearance against the streets.

10.0 STAGING

The activity will be delivered in 2 stages.The school is to stay operational during construction of Stage 2 works.
The proposed activity includes both stages.
The proposed staging has been designed to minimize disruption during operation of Stage 1 while Stage 2 is under construction
The first stage includes delivery of the following:

- Block A,
- Block B,
- Block C including Hydrant Booster pump room.
- Temporary Waste and Bike storage
- Shed containing Outdoor Equipment store
- Public Domain works includive 2 zebra crossings

Stage 2 comprises of:

- Demolition of temporaty bike and waste storage
- New Block D including Bike and waste storage and Roof top play
- Internal layout rearrangement– Level 2 – library
- Internal layout rearrangement – Level 3 – Science
- 1 additional tree

Figure 77: Staging Extent of works (source:NBRS)

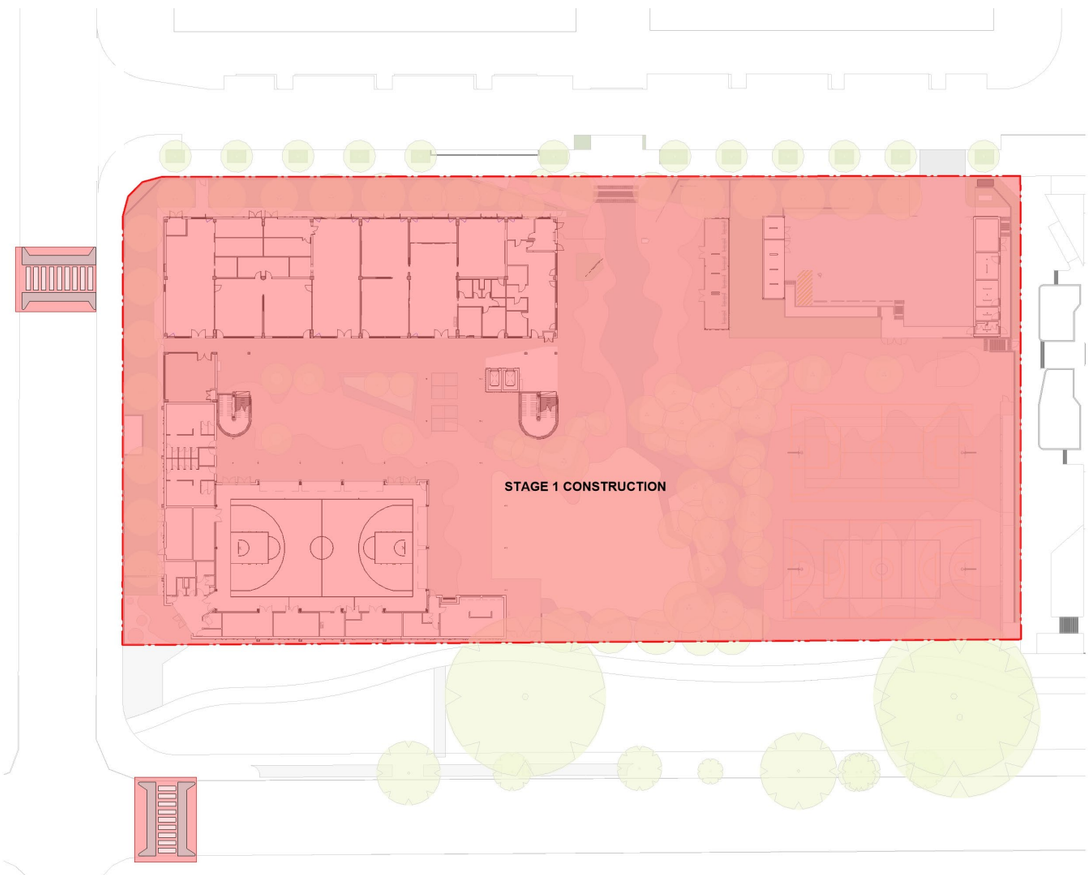


Figure 76- Stage 1 extent of works (source: NBRS)

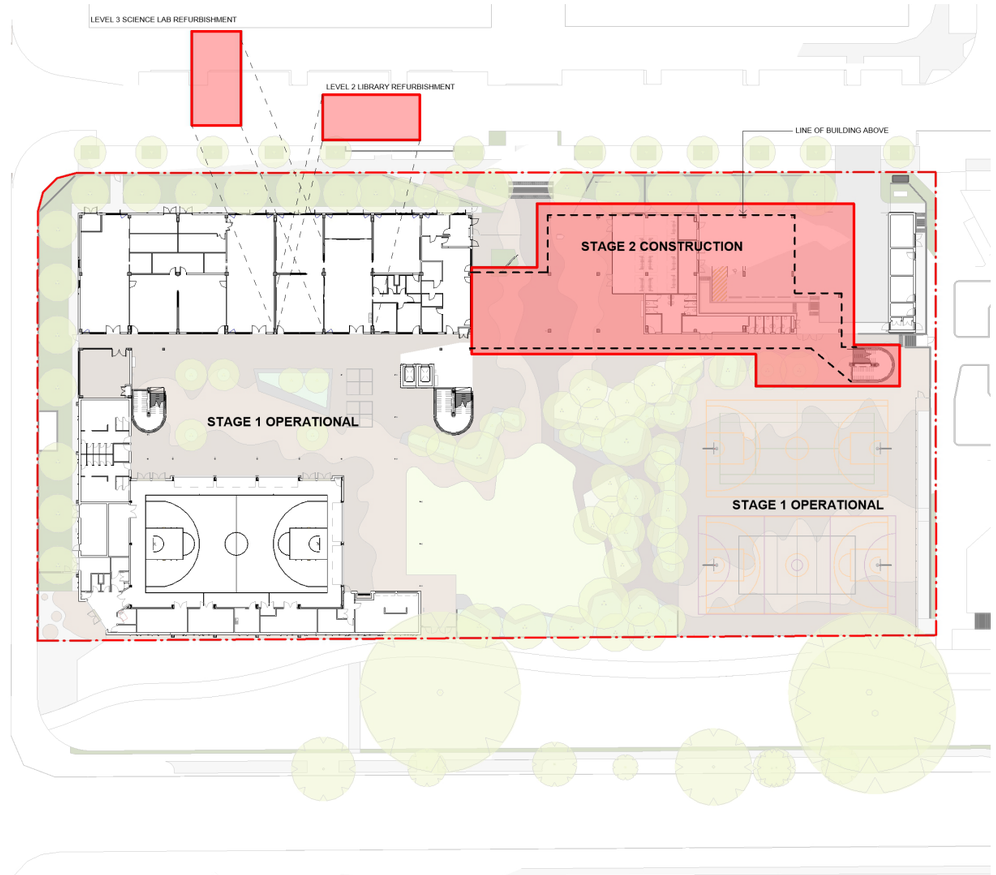


Figure 75: Stage 1 extent of works (source: NBRS)

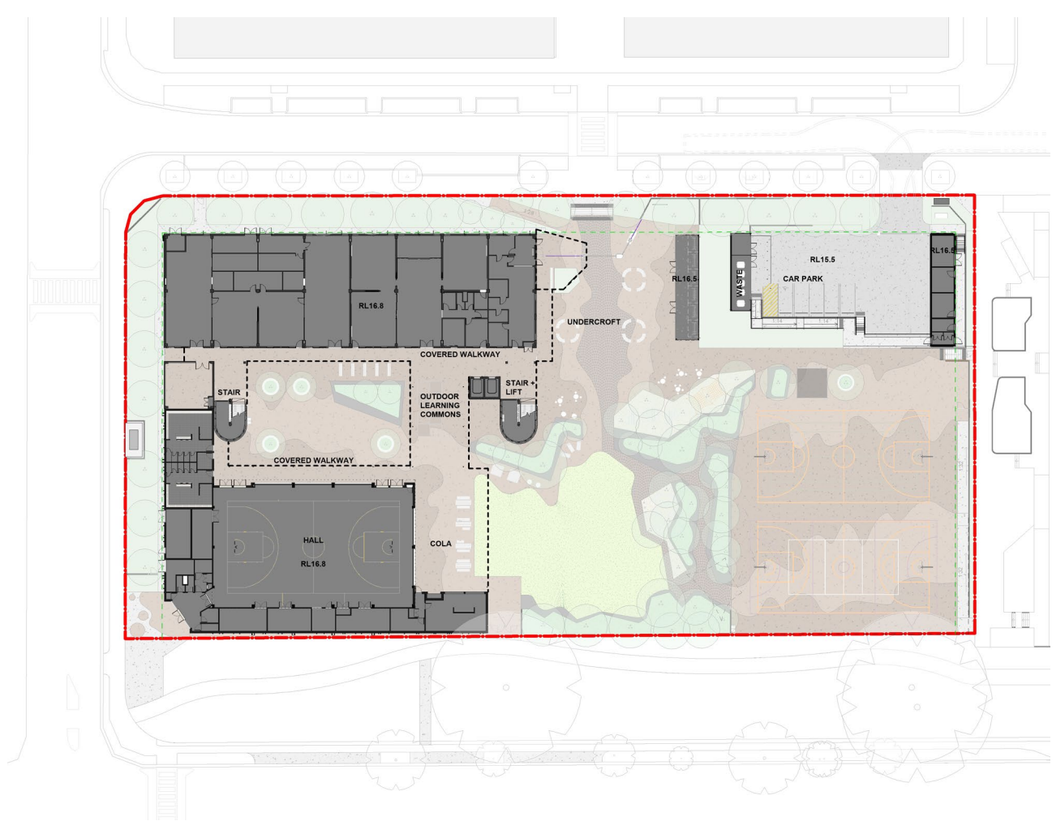


Figure 79: Stage 1 Site plan

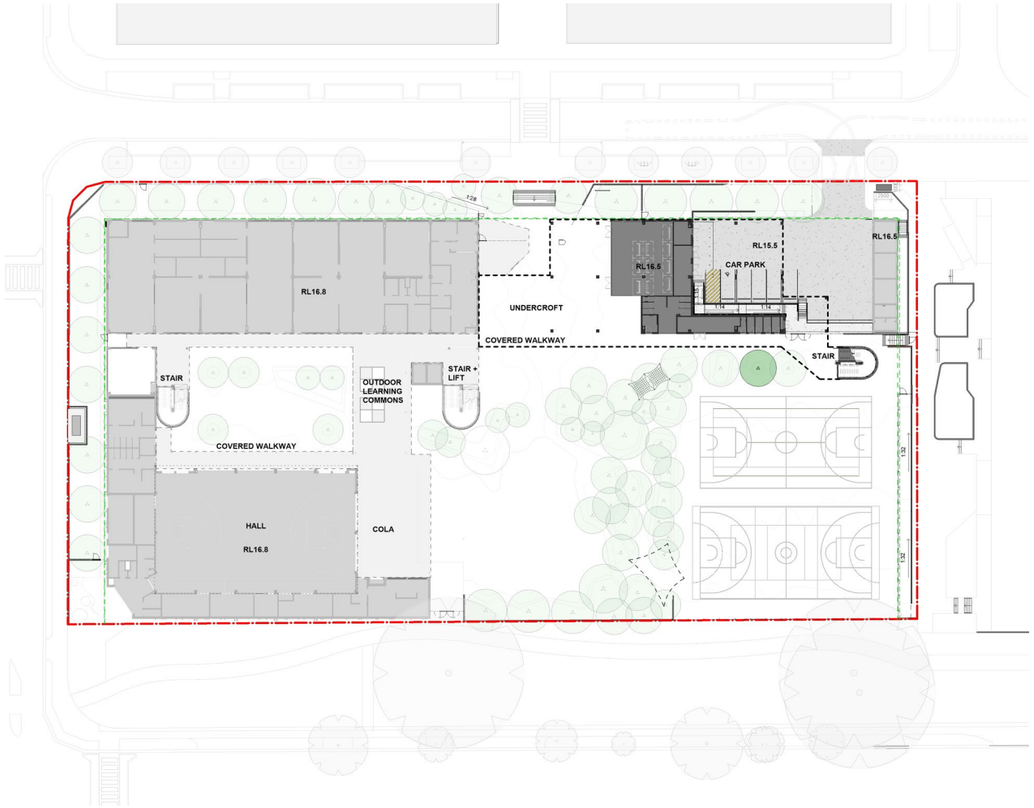


Figure 78: Stage 2 Site plan

11.0 VISUAL IMPACT ANALYSIS

EXISTING

PROPOSED

Figure 80 Visual analysis View 1 (source: NBRS)

EXISTING

PROPOSED

Figure 81: Visual analysis View 2 (source: NBRS)

Figure 82: Visual analysis View 3 (source: NBRS)

EXISTING

PROPOSED

Figure 83: Visual analysis View 4 (source: NBRS)

12.0 MITIGATION MEASURES

Below a summary of the impacts of the Activity and the proposed mitigation measures.

Project Stage: Design (D) Construction (c) Operation (O)	Mitigation Measure	Relevant Section of Report
C, O	Noise impact on Neighbouring properties. School Management plan to address the mitigation measures and educate Students on appropriate noise levels.	Section 4.3.4
O	Visual privacy. The school will need to manage visual privacy by considering measures such as scheduling use, enhancing screening over time, and maintaining communication with nearby residents to address potential concerns.	Section 6.2.5
C	Façade Mainatainace. The contractor to collaborate with the SINSW Maintenance and Asset Management Unit to design a solution that meets compliance standards and operational requirements.	Section 7.11.2

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13.0 CONCLUSION

The architectural and landscape design for Melrose Park High School thoughtfully addresses the site's unique characteristics, urban context, and educational objectives. By prioritizing student well-being, environmental sustainability, and integration with the surrounding community, the design achieves a harmonious balance between functionality and aesthetics.
The design incorporates environmental considerations such as natural lighting, scale transitions from low-density residential areas to high-rise developments, and alignment with the council's future precinct vision. Privacy and security for students and staff remain a key focus, supported by mitigation measures and strategic planning outlined in this report.
Subject to the implementation of the recommendations and mitigation measures detailed in Section 11, it is concluded that the proposed development will not significantly impact the environment concerning architectural and landscape matters. This proposal represents a comprehensive and sensitive response to the needs of the school community and the broader Melrose Park area.

APPENDIX A – ARCHITECTURAL DRAWINGS

APPENDIX B – LANDSCAPE DRAWINGS