MORIAH COLLEGE

STATE SIGNIFICANT DEVELOPMENT 10352

ENVIRONMENTAL IMPACT STATEMENT

PREPARED FOR

MORIAH WAR MEMORIAL COLLEGE ASSOCIATION

NOVEMBER 2019

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	John Wynne
Associate Director	Samantha Wilson
Consultant	Tim Fleming
Job Code	SA6491
Version	Final – November 2019

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STATEMENT OF VALIDITY

SUBMISSION OF ENVIRONMENTAL IMPACT STATEMENT

Environmental Assessment prepared by:

Name	**Samantha Wilson (Associate Director)** *Bachelor of Landscape Architecture, University of Canberra* *Graduate Diploma – Urban Planning and Environment, Royal Melbourne Institute of Technology* **Tim Fleming (Consultant)** *Bachelor of Science, University of Sydney* *Master of Urban and Regional Planning, University of Sydney*
Address	Urbis Pty Ltd Level 8, 123 Pitt Street, Sydney NSW 2000
In respect of:	Moriah War Memorial College Association
Land Details	101 York Road (Lot 22 DP 879582) and 3 Queens Park Road, Queens Park (Lot 3 DP 701512) (the site). There are no works proposed within 1 Queens Park Road (Lot 1 DP 701512) which also forms part of the campus.
Applicant Details	Moriah War Memorial College Association C/- Urbis Pty Ltd
Applicant Address	Urbis Pty Ltd Level 8, 123 Pitt Street, Sydney NSW 2000
Project Summary	Redevelopment of the Moriah College Queens Park Campus

I/We certify that the content of the Environmental Impact Statement, to the best of our knowledge, has been prepared as follows:

- In accordance with the requirements of the *Environmental Planning and Assessment Act 1979 (EP&A Act) and Environmental Planning and Assessment Regulation 2000* (EP&A Regulation);
- Containing all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates; and
- The information contained in this report is true in all material particulars and is not misleading.

Table 1 – Certification

Name	**Samantha Wilson, Associate Director**	**Tim Fleming, Consultant**
Signature		
Date	7 November 2019	7 November 2019

GLOSSARY AND ABBREVIATIONS

Table 2 – Glossary

Abbreviation	Meaning
ACHA	Aboriginal Cultural Heritage Assessment
AHIMS	Aboriginal Heritage Information Management System
AS	Australian Standard
ASS	Acid Sulfate Soils
BC Act	*Biodiversity Conservation Act 2016*
BCA	Building Code of Australia
CMP	Construction Management Plan
Council	Waverly Council
CPTED	Crime Prevention Through Environmental Design
CTMP	Construction Traffic Management Plan
District Plan	Eastern City District Plan
DPIE	NSW Department of Planning, Industry and Environment
DP	Deposited Plan
DSI	Detailed Site Investigation
EIS	Environmental Impact Statement
EPA	NSW Environment Protection Authority
EPA Act	*Environmental Planning and Assessment Act 1979*
EPA Regulation	*Environmental Planning and Assessment Regulation 2000*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ESD	Ecologically Sustainable Development
Education SEPP	*State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017*
GANSW	NSW Government Architect's Office
HIS	Heritage Impact Statement
HMS	Hazardous Materials Survey
IMP	Infrastructure Management Plan

Abbreviation	Meaning
Infrastructure Strategy	State Infrastructure Strategy 2018-2038
m	metre
NIA	Noise Impact Assessment
OEH	Office of Environment and Heritage
OWMP	Operational Waste Management Plan
PSI	Preliminary Site Investigation
Region Plan	A Metropolis of Three Cities – Greater Sydney Region Plan
RAP	Remediation Action Plan
RAPs	Registered Aboriginal Parties
RMS	Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SEPP	*State Environmental Planning Policy*
SEPP 55	*State Environmental Planning Policy No.55 – Remediation of Land*
SEPP 64	*State Environmental Planning Policy No. 64 – Advertising and Signage*
SINSW	Schools Infrastructure New South Wales
M^2	Square Metres
SSD	State Significant Development
SEPP SRD	*State Environmental Planning Policy (State and Regional Development) 2011*
SSDA	State Significant Development Application
TfNSW	Transport for New South Wales
The Minister	the Minister for Planning and Public Spaces
The school	Moriah College Queens Park Campus
TPZ	Tree Protection Zone
Transport Strategy	Future Transport Strategy 2056
Urbis	Urbis Pty Ltd
WSUD	Water Sensitive Urban Design

EXECUTIVE SUMMARY

PURPOSE OF THIS REPORT

This Environmental Impact Statement (EIS) has been prepared by *Urbis Pty Ltd* (Urbis) on behalf of **Moriah College War Memorial Association** (the Applicant) in support of a State Significant Development Application (SSD_10352) for the redevelopment of the Moriah College Queens Park Campus, at Queens Park Road, Queens Park (the site).

The SSDA seeks consent for the concept development of the southern portion of the campus and the first stage of building works, including demolition, construction of a new Science Technology Engineering Arts and Maths (**STEAM**) Building and Independent Learning Centre (**ILC**), internal drop off and pick up area and staff car parking, sports court complex, open space and landscape works.

The proposed development has an estimated capital investment value of $81,712,574 and accordingly is classified as State Significant Development under Pursuant to Clause 15, Schedule 1 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

This EIS should be read in conjunction with the Secretary's Environmental Assessment Requirements (SEARs) issued on 15 July 2019 and the supporting technical studies provided in the appendices.

THE PROPOSAL

The SSDA is lodged as a concept application in accordance with the provisions of section 4.22 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Consent is sought for the concept development of the southern portion of the campus, as well as the first stage of building works.

The project seeks to:

- Re-orientate the High School Main Entrance away from the residential areas of Queen's Park. The High School Pedestrian Entrance will be at Gate 3 on Baronga Avenue and the Vehicular Entrance will be at Gate 4 on York Road, south.
- Provide an improved traffic management system with on-site Drop Off and Pick Up for the High School students and the Early Learning Centre entering from York Road (Gate 4).
- Provide enhanced visitor parking for after-hours School Community Events accessed from Gate 4, York Road.
- Provide a new contemporary learning facility in Stage 1 to replace existing building stock which is 25 years old. This facility will provide updated environments for Science, Technology, Engineering, Art and Mathematics (STEAM) and an Independent Learning Centre, including a new High School Library.
- Provide for the future development of a new Early Learning Centre (ELC) and college teaching rooms in Stage 2.
- Provide significantly improved external recreational areas for the school community, including additional landscaped areas with a focus on increasing the parkland setting of the campus.
- Enable the growth of student numbers to be developed in stages over a period of time.

The first stage of works will include:

- Staged demolition of existing buildings and structures, removal of existing tennis court and trees;
- Construction of a new part three, part four-storey STEAM Building and ILC;
- Creation of a new student and visitor pedestrian entrance on Baronga Avenue;
- Construction of a new internal drop off and pick up area, as well as provision for an additional 17 staff car parking spaces, bicycle and bus parking, as well as waste and service vehicle loading area; and
- Construction of a new sports court complex, new outdoor learning gardens, and open space.

Figure 1 – Photomontage of the Proposal

Source: FJMT

THE SITE

The site comprises three lots, identified as 101 York Road, Queens Park (Lot 22 in DP 879582), 1 Queens Road, Queens Park (Lot 1 in DP 701512), and 3 Queens Road (Lot 3 in DP701512).

The site is located within the suburb of Queens Park, which is approximately 6 kilometres south east of Sydney's CBD. The site is irregular in shape and is bounded by Queens Park Road to the north, Baronga Avenue to the east, and York Road to the south and west.

The site has an area of approximately 4.51 hectares. As existing, the site comprises a junior school building, an early learning centre, a senior school campus, playground areas, hardstand staff and visitor carparking areas, administrative buildings, and ingress/egresses points to York Road.

PROJECT BACKGROUND AND NEED FOR THE PROPOSAL

The proposal builds on previous work undertaken by the School to developed a Master Plan to guide growth and respond to the changes in teaching methods over a period of 25 years since its original construction in 1994.

The Moriah College Queens Park Campus contains a number of dilapidated assets that require extensive maintenance. A number of buildings and demountable located within the campus do not meet the educational requirements of the school.

The proposal's objective is to provide high quality, flexible spaces to suit contemporary teaching methodologies and technologies. The proposal also seeks to create a clear identity, entry, or a shared student gathering space for the high school which can be used for both informal and formal events.

In addition, the proposal will provide greater connectivity to the landscape of the campus. This is achieved both through outdoor learning and also high-quality passive and active recreation areas.

Moriah College is confident that the final outcome will provide modern, state-of-the art learning and play spaces for its students. The final outcome is designed to build upon the progress that the School has made in recent times to progressively improve its campus. The proposed redevelopment will ensure that Moriah continue to prepare graduates for their futures and enable the School to continue to make a significant contribution to Australian education.

COST OF WORK AND PLANNING FRAMEWORK

A quantity surveyors report is attached to this EIS at **Appendix B**. The report confirms that that project has an estimated capital investment value of $81,712,574.

Pursuant to Schedule 1 Clause 15 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP), development for the purposes of alterations and additions to an existing school with a capital investment value in excess of $20 million is identified as state significant development.

Any approval to this Concept SSDA would not authorise the carrying out of works associated with the proposed Stage 2. In accordance with the provisions of Section 4.22 of the EP&A Act a subsequent development application would need to be lodged and approved for the construction of the Stage 2 building.

ASSESSMENT

The proposal has been assessed in accordance with the EP&A Act, as well as the items identified in the SEARs issued for the project. In summary, the assessment confirms:

- The proposal demonstrates a high level of consistency with state and local statutory and strategic planning policies.
- The proposal has been designed in accordance with relevant objectives and development controls listed in *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017*, the *Waverly Local Environmental Plan 2012* and the Waverly Development Control Plan 2012.
- Subject to the mitigation measures recommended by the specialist consultants, the proposal will not have any unacceptable impacts on adjoining or surrounding properties or the public domain in terms of built form, social or environmental impacts.
- The proposal is highly suitable for the site, as it continues the established educational use of the site and provides state-of-the-art school facilities in line with modern day teaching practices for the benefit of current and future students. Further, there are no significant environmental constraints that would prevent the proposal from being delivered at the site. A visual impact assessment has been undertaken to accompany the EIS which concluded that existing vegetation will significantly frame or screen the proposal. Regardless, it is considered that the proposal will contribute to the visual quality of the locality.
- The proposal is in the public interest in that it will ensure more students have access to new state-of-the-art school facilities, including new indoor learning spaces and outdoor recreation spaces.
- The proposal has been designed to make a positive contribution to the overall built form of the site, having regard to the existing characteristic school campus and the landscaped setting in which the site is located.
- To manage the traffic impacts associated with the proposal, the School will implement travel demand management measures including the provision of a green travel plan and introduction of staggered arrival and departure times. With the implementation of these measures, as well as the proposed intersection upgrades, the vehicle trip generation of the proposed scheme would significantly be reduced such that it would be comparable with that generated by the approved school capacity. Thus, the surrounding key intersections would not be unreasonably affected by the proposed school expansion.

Considering the above and the content contained in this EIS, it is recommended that the DPIE approve this SSDA with appropriate standard conditions.

SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

A request was made to the Minister for the *Secretary's Environmental Assessment Requirements* (SEARs), pursuant to Clause 3, Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) and the SEARs were issued on 15 July 2019. The SEARs are addressed within this report and included in full at **Appendix A**.

Table 3 below provides a summary of the SEARs and identifies the section of the report where the relevant requirement is addressed and/or the appendix reference for the technical consultant's report associated with that requirement.

Table 3 – Secretary's Environmental Assessment Requirements

Item / Description	Document Reference
GENERAL REQUIREMENTS	
The Environmental Impact Statement (EIS) must be prepared in accordance with and meet the minimum requirements of clauses 6 and 7 of Schedule 2 the Environmental Planning and Assessment Regulation 2000 (the Regulation). Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: • adequate baseline data • consideration of potential cumulative impacts due to other development in the vicinity (completed, underway or proposed) • measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment.	The EIS has been prepared in accordance with the Secretary's Requirements and meets the minimum form and content requirements specified in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*. The EIS includes a comprehensive assessment of the environmental risks and impacts associated with the development.
The EIS must be accompanied by a report from a qualified quantity surveyor providing: • a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the Regulation) of the proposal, including details of all assumptions and components from which the CIV calculation is derived • an estimate of the jobs that will be created by the future development during the construction and operational phases of the development certification that the information provided is accurate at the date of preparation.	Refer **Appendix B**.
KEY ISSUES	
1. Statutory and Strategic Context Address the statutory provisions contained in all relevant environmental planning instruments, including: • *Biodiversity Conservation Act 2016*	Refer Chapter 4.

Item / Description	Document Reference
• *State Environmental Planning Policy (State & Regional Development) 2011* • *State Environmental Planning Policy (Infrastructure 2007)* • *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017* • *State Environmental Planning Policy No. 64 – Advertising and Signage* • *State Environmental Planning Policy No.55 – Remediation of Land* • *Draft State Environmental Planning Policy (Remediation of Land)* • *Draft State Environmental Planning Policy (Environment)* • *Waverley Local Environmental Plan 2012* Permissibility: Detail the nature and extent of any prohibitions that apply to the development. Development Standards: Identify compliance with the development standards applying to the site and provide justification for any contravention of the development standards. Provisions: Adequately demonstrate and document in the EIS how each of the provisions in the listed instruments are addressed, including reference to necessary technical documents.	
2. Policies Address the relevant planning provisions, goals and strategic planning objectives in the following: • *NSW State Priorities* • *The Greater Sydney Regional Plan, A Metropolis of three cities* • *Future Transport Strategy 2056* • *State Infrastructure Strategy 2018 – 2038 Building the Momentum* • *Sydney's Cycling Future 2013* • *Sydney's Walking Future 2013* • *Sydney's Bus Future 2013* • *Crime Prevention Through Environmental Design (CPTED) Principles* • *Better Placed: An integrated design policy for* • *the built environment of New South Wales (GANSW, 2017)* • *Child Care Planning Guideline (DPE, 2017)* • *Eastern City District Plan* • *Waverley Development Control Plan 2012*	Refer Chapter 5.

Item / Description	Document Reference
3. Operation • Provide details of the existing and proposed school operations, including staff and student numbers, school hours of operation, and operational details of any proposed before/after school care services and/or community use of school facilities. • Provide a detailed justification of suitability of the site to accommodate the proposal. • Provide details of how the school will continue to operate during construction activities of the new primary and secondary school, including proposed mitigation measures.	Refer Chapter 3, Appendix D and Appendix W.
4. Built Form and Urban Design • Address the height, density, bulk and scale, setbacks and interface of the proposal in relation to the surrounding development, topography, streetscape and any public open spaces. • Address design quality and built form, with specific consideration of the overall site layout, streetscape, open spaces, façade, rooftop, massing, setbacks, building articulation, materials, colours and colours. • Provide details of any digital signage boards, including size, location and finishes. • Clearly demonstrate how design quality will be achieved in accordance with Schedule 4 Schools – Design Quality Principles of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 and the GANSW Design Guide for Schools. • Detail how services, including but not limited to waste management, loading zones, and mechanical plant are integrated into the design of the development. • Provide detailed site and context analysis to justify the proposed site planning and design approach including massing options and preferred strategy for future development. • Provide a detailed landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation. • Provide a visual impact assessment that identifies any potential impacts on the surrounding built environment and landscape including views to and from the site and any adjoining heritage items. • Address CPTED Principles. • Demonstrate good environmental amenity including access to natural daylight and ventilation, acoustic separation, access to landscape and outdoor spaces and future flexibility. • Demonstrate that Aboriginal culture and heritage is considered and incorporated holistically in the design proposal.	Refer Chapter 7 and Appendix E.

Item / Description	Document Reference
5. Environmental Amenity • Assess amenity impacts on the surrounding locality, including solar access, visual privacy, visual amenity, overshadowing and acoustic impacts. • Conduct a view analysis to the site from key vantage points and streetscape locations (photomontages or perspectives should be provided showing the building envelope and likely future development). • Include a lighting strategy and measures to reduce spill into the surrounding sensitive receivers. • Identify any proposed use of the school outside of school hours (including weekends) and assess any resultant amenity impacts on the immediate locality and proposed mitigation measures. • Detailed outline of the nature and extent of the intensification of use associated with the increased floor space, particularly in relation to the proposed increase in staff and student numbers. • Detail amenity impacts including solar access, acoustic impacts, visual privacy, view loss, overshadowing and wind impacts. A high level of environmental amenity for any surrounding residential land uses must be demonstrated.	Refer Chapter 7 and Appendix E.
6. Staging Provide details regarding the staging of the proposed development (if any).	Refer Chapter 3 and Appendix W.
7. Transport and Accessibility Include a transport and accessibility impact assessment, which details, but not limited to the following: • accurate details of the current daily and peak hour vehicle, existing and future public transport networks and pedestrian and cycle movement provided on the road network located adjacent to the proposed development • details of estimated total daily and peak hour trips generated by the proposal, including vehicle, public transport, pedestrian and bicycle trips • the adequacy of existing public transport or any future public transport infrastructure within the vicinity of the site, pedestrian and bicycle networks and associated infrastructure to meet the likely future demand of the proposed development • measures to integrate the development with the existing/future public transport network • the impact of trips generated by the development on nearby intersections, with consideration of the cumulative impacts from other approved developments in the vicinity, and the need/associated funding for, and details of, upgrades or road improvement works, if required (Traffic modelling is to be undertaken using SIDRA network modelling for current and future years)	Refer Chapter 7 and Appendix J, Appendix K, Appendix CC, and Appendix EE.

Item / Description	Document Reference

• a road safety audit of existing conditions, during the AM and PM school peak periods, along the following sections of road:
  ○ York Road, between Queens Park Road and Baronga Avenue
  ○ Queens Park Road, between York Road and Baronga Avenue
  ○ Baronga Avenue, between Queens Park Road and York Road
  Note: any road safety audit would need to be undertaken by a suitably qualified audit team that is independent from the project team.
• the Transport and Accessibility Impact Assessment must respond to the findings of the road safety audit and provide recommended actions to address the findings of the audit.
• the identification of infrastructure required to address any impacts on traffic efficiency and road safety impacts associated with the proposed development, including details on improvements required to affected intersections, additional school bus routes along bus capable roads (i.e. minimum 3.5m wide travel lanes), additional bus stops or bus bays
• details of travel demand management measures to minimise the impact on general traffic and bus operations, including details of a location-specific sustainable travel plan (Green Travel Plan and specific Workplace travel plan) and the provision of facilities to increase the non-car mode share for travel to and from the site
• the proposed walking and cycling access arrangements and connections to public transport services
• the proposed access arrangements, including car and bus pick-up/drop-off facilities, and measures to mitigate any associated traffic impacts and impacts on public transport, pedestrian and bicycle networks, including pedestrian crossings and refuges and speed control devices and zones
• proposed bicycle parking provision, including end of trip facilities, in secure, convenient, accessible areas close to main entries incorporating lighting and passive surveillance
• proposed number of on-site car parking spaces for staff and visitors and corresponding compliance with existing parking codes and justification for the level of car parking provided on-site
• an assessment of the cumulative on-street parking impacts of cars and bus pick-up/drop-off, staff parking and any other parking demands associated with the development
• an assessment of road and pedestrian safety adjacent to the proposed development and the details of required road safety measures and personal safety in line with CPTED	

Item / Description	Document Reference

• emergency vehicle access, service vehicle access, delivery and loading arrangements and estimated service vehicle movements (including vehicle type and the likely arrival and departure times)
• the preparation of a preliminary Construction Traffic and Pedestrian Management Plan to demonstrate the proposed management of the impact in relation to construction traffic addressing the following:
  ○ assessment of cumulative impacts associated with other construction activities (if any)
  ○ an assessment of road safety at key intersection and locations subject to heavy vehicle construction traffic movements and high pedestrian activity
  ○ details of construction program detailing the anticipated construction duration and highlighting significant and milestone stages and events during the construction process
  ○ details of anticipated peak hour and daily construction vehicle movements to and from the site
  ○ details of on-site car parking and access arrangements of construction vehicles, construction workers to and from the site, emergency vehicles and service vehicle
  ○ details of temporary cycling and pedestrian access during construction.	

8. Ecologically Sustainable Development (ESD) • Detail how ESD principles (as defined in clause 7(4) of Schedule 2 of the Regulation) will be incorporated in the design and ongoing operation phases of the development. • Include a framework for how the future development will be designed to consider and reflect national best practice sustainable building principles to improve environmental performance and reduce ecological impact. This should be based on a materiality assessment and include waste reduction design measures, future proofing, use of sustainable and low-carbon materials, energy and water efficient design (including water sensitive urban design) and technology and use of renewable energy. • Include preliminary consideration of building performance and mitigation of climate change, including consideration of Green Star Performance. • Include an assessment against an accredited ESD rating system or an equivalent program of ESD performance. This should include a minimum rating scheme target level. • Demonstrate how environmental design will be achieved in accordance with the GANSW Environmental Design in Schools Manual (https://www.governmentarchitect.nsw.gov.au/guidance/environmental-design-in-schools).	Refer Chapter 7.8 and Appendix L.

Item / Description	Document Reference

• Provide a statement regarding how the design of the future development is responsive to the CSIRO projected impacts of climate change, specifically:
  ○ hotter days and more frequent heatwave events
  ○ extended drought periods
  ○ more extreme rainfall events
  ○ gustier wind conditions
  ○ how these will inform landscape design, material selection and social equity aspects (respite/shelter areas).	

9. Social Impacts Include an assessment of the social consequences of the schools' relative location and decanting activities if proposed.	Refer Chapter 7.9.

10. Heritage
 	
• A Statement of Heritage Impact (SOHI) should be prepared for the project by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual. The SOHI is to address the impacts of the proposal on the heritage significance of the site and adjacent areas and is to identify the following:
  ○ identifies all heritage items (state and local) within and near the site, including built heritage, landscapes and archaeology, and includes detailed
  ○ mapping of these items, and assessment of why the items and site(s) are of heritage significance
  ○ assesses the proposal's impact on the heritage significance of heritage items or potential heritage items on, and near the development site
  ○ addresses the proposal's compliance with policies of relevant Conservation Management Plans for the affected sites
  ○ includes a detailed visual impact assessment along with photomontages and
  ○ provides detailed mitigation measures and strategies to avoid and mitigate any adverse impacts on heritage values of the affected sites.
• If the SOHI identifies impact on potential historical archaeology, a historical archaeological assessment should be prepared by a suitably qualified archaeologist in accordance with the Heritage Guidelines 'Archaeological Assessment' 1996 and 'Assessing Significance for Historical Archaeological Sites and Relics' 2009. This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential archaeological resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an
	Refer Chapter 7.10 and Appendix M.

Item / Description	Document Reference
appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations or salvage programme.	
11. Aboriginal Heritage • Identify and describe the Aboriginal cultural heritage values that exist across the site and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. • Identify and address the Aboriginal cultural heritage values in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (OEH, 2010). • Undertake consultation with Aboriginal people and document in accordance with Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW). The significance of cultural heritage values of Aboriginal people who have a cultural association with the land are to be documented in the ACHAR. • Identify, assess and document all impacts on the Aboriginal cultural heritage values in the ACHAR. • The EIS and the supporting ACHAR must demonstrate attempts to avoid any impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR and EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.	Refer Chapter 7.11 and Appendix N.
12. Noise and Vibration • Identify and provide a quantitative assessment of the main noise and vibration generating sources during demolition, site preparation, bulk excavation, construction. Outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land. • Identify and assess operational noise, including consideration of any public-address system, school bell, mechanical services (e.g. air conditioning plant), use of any school hall for concerts etc. (both during and outside school hours) and any out of hours community use of school facilities, and outline measures to minimise and mitigate the potential noise impacts on surrounding occupiers of land.	Refer Chapter 7.12 and Appendix G.
13. Contamination • Assess and quantify any soil and groundwater contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55. • Undertake a hazardous materials survey of all existing structures and infrastructure prior to any demolition or site preparation works. • Detail measures to collect and manage any seepage waters from the basement underground car parking areas to prevent pollution of waters.	Refer Chapter and 7.13 Appendix O.

Item / Description	Document Reference
14. Utilities • Prepare an Infrastructure Management Plan in consultation with relevant agencies, detailing information on the existing capacity and any augmentation and easement requirements of the development for the provision of utilities including staging of infrastructure. • Prepare an Integrated Water Management Plan detailing any proposed alternative water supplies, proposed end uses of potable and non-potable water, and water sensitive urban design. • Identify any potential impacts of the proposed construction and operation on the existing utility infrastructure and service provider assets and easements and demonstrate how these will be protected or impacts mitigated.	Refer Chapter 3.10 and Appendix AA, Appendix BB, and Appendix FF.
15. Contributions Address Council's 'Section 7.11 Contribution Plan' and/or details of any Voluntary Planning Agreement, which may be required to be amended because of the proposed development.	Refer Chapter 4.14.
16. Drainage • Detail measures to minimise operational water quality impacts on surface waters and groundwater. • Stormwater plans detailing the proposed methods of drainage without impacting on the downstream properties.	Refer Chapter 7.14.
17. Flooding Identify flood risk on-site (detailing the most recent flood studies for the project area) and consideration of any relevant provisions of the NSW Floodplain Development Manual (2005), including the potential effects of climate change, sea level rise and an increase in rainfall intensity. If there is a material flood risk, include design solutions for mitigation.	Refer Chapter 7.15.
18. Biodiversity Assessment • Biodiversity impacts related to the proposed development are to be assessed in accordance with the Biodiversity Assessment Method and documented in a Biodiversity Development Assessment Report (BDAR). The BDAR must include information in the form detailed in the Biodiversity Conservation Act 2016 (s6.12), Biodiversity Conservation Regulation 2017 (s6.8) and Biodiversity Assessment Method. • The BDAR must document the application of the avoid, minimise and offset framework including assessing all direct, indirect and prescribed impacts in accordance with the Biodiversity Assessment Method. • The BDAR must include details of the measures proposed to address the offset obligation as follows:	Refer Chapter 7.16 and Appendix S.

Item / Description	Document Reference
○ the total number and classes of biodiversity credits required to be retired for the development/project ○ the number and classes of like-for-like biodiversity credits proposed to be retired ○ the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules ○ any proposal to fund a biodiversity conservation action. ○ any proposal to make a payment to the Biodiversity Conservation Fund. • If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. • The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the Biodiversity Assessment Method Order 2017 under s6.10 of the Biodiversity Conservation Act 2016. • Where a Biodiversity Assessment Report is not required, engage a suitably qualified person to assess and document the flora and fauna impacts related to the proposal. *Note: Notwithstanding these requirements, the Biodiversity Conservation Act 2016 requires that State Significant Development Applications be accompanied by a Biodiversity Development Assessment Report unless otherwise specified under the Act.*	
19. Sediment, Erosion and Dust Controls • Detail measures and procedures to minimise and manage the generation and off-site transmission of sediment, dust and fine particles.	Refer Chapter 7.17.
20. Waste Identify, quantify and classify the likely waste streams to be generated during construction and operation and describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste. Identify appropriate servicing arrangements (including but not limited to, waste management, loading zones, mechanical plant) for the site.	Refer Chapter 3.8 and Appendix V.
21. Construction Hours Identify proposed construction hours and provide details of the instances where it is expected that works will be required to be carried out outside the standard construction hours.	Refer Appendix W.
Plans and Documents	
The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the Regulation. Provide these as part of the EIS rather than as separate documents.	Various.

Item / Description	Document Reference

In addition, the EIS must include the following:
• A section 10.7(2) and (5) Planning Certificates (previously Section 149(2) and (5) Planning Certificate)
• Architectural drawings showing key dimensions, RLs, scale bar and north point, including:
  ○ plans, sections and elevation of the proposal at no less than 1:200 showing indicative furniture layouts and program
  ○ illustrated materials schedule including physical or digital samples board with correct proportional representation of materials, nominated colours and finishes
  ○ details of proposed signage, including size, location and finishes
  ○ detailed annotated wall sections at 1:20 scale that demonstrate typical cladding, window and floor details, including materials and general construction quality
  ○ site plans and operations statement demonstrating the after hours and community use strategy
• Site Survey Plan, showing existing levels, location and height of existing and adjacent structures / buildings and site boundaries
• Site Analysis Plan including:
  ○ site and context plans that demonstrate principles for future development and expansion, built form character and open space network
  ○ active transport linkages with existing, proposed and potential footpaths and
  ○ bicycle paths and public transport links
  ○ site and context plans that demonstrate principles for future network, active transport linkages with existing, proposed and potential footpaths and bicycle paths and public transport links
• Sediment and Erosion Control Plan
• Shadow Diagrams
• View analysis, photomontages and architectural renders, including from those from public vantage points
• Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including:
  ○ integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed including articulation of playground spaces	

Item / Description	Document Reference
○ plan identifying significant trees, trees to be removed and trees to be retained or transplanted • Design report to demonstrate how design quality will be achieved in accordance with the above Key Issues including: ○ architectural design statement ○ diagrams, structure plan, illustrations and drawings to clarify the design intent of the proposal ○ detailed site and context analysis ○ analysis of options considered including building envelope study to justify the proposed site planning and design approach ○ visual impact assessment identifying potential impacts on the surrounding built environment and adjoining heritage items ○ summary of feedback provided by GANSW and NSW State Design Review Panel (SDRP) and responses to this advice ○ summary report of consultation with the community and response to any feedback provided • Geotechnical and Structural Report • Accessibility Report • Arborist Report and Schedule of materials and finishes.	
Consultation	
During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups, special interest groups including local Aboriginal land councils and registered Aboriginal stakeholders and affected landowners. In particular, you must consult with: • Waverley Council • GANSW (through the NSW SDRP process) • Transport for NSW • Transport for NSW (Roads and Maritime Services) Consultation should commence as soon as practicable to agree the scope of investigation. The EIS must describe the consultation process and the issues raised and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.	Refer Chapter 6 and Appendix Y.

1. INTRODUCTION

1.1. PROJECT OVERVIEW

This EIS has been prepared by *Urbis Pty Ltd* on behalf of **Moriah War Memorial College Association** (the Applicant) and accompanies a SSDA submitted to the DPIE for the redevelopment of the Moriah College Queens Park Campus. The SSDA seeks concept approval for the staged redevelopment of the southern portion of the Senior School Campus. It also seeks consent for the first stage of building works.

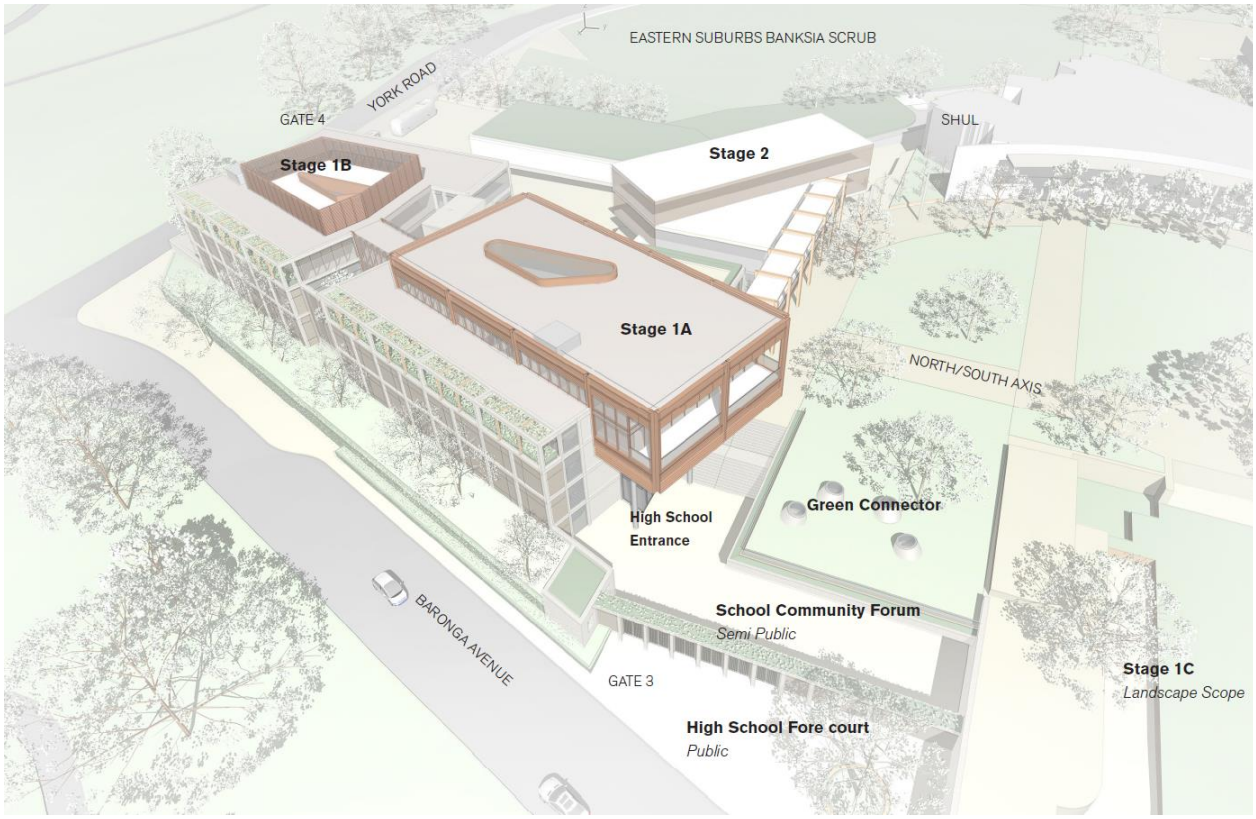
The project seeks to:

- Re-orientate the High School Main Entrance away from the residential areas of Queen's Park. The High School Pedestrian Entrance will be at Gate 3 on Baronga Avenue and the Vehicular Entrance will be at Gate 4 on York Road, south.
- Provide an improved traffic management system with on-site Drop Off and Pick Up for the High School students and the Early Learning Centre entering from York Road (Gate 4).
- Provide enhanced visitor parking for after-hours School Community Events accessed from Gate 4, York Road.
- Provide a new contemporary learning facility in Stage 1 to replace existing building stock which is 25 years old. This facility will provide updated environments for Science, Technology, Engineering, Art and Mathematics (STEAM) and an Independent Learning Centre, including a new High School Library.
- Provide for the future development of a new Early Learning Centre (ELC) and college teaching rooms in Stage 2.
- Provide significantly improved external recreational areas for the school community, including additional landscaped areas with a focus on increasing the parkland setting of the campus.
- Enable the growth of student numbers to be developed in stages over a period of time.

The first stage of works will include:

- Staged demolition of existing buildings and structures, removal of existing tennis court and trees;
- Construction of a new part three, part four-storey STEAM Building and ILC;
- Creation of a new student and visitor pedestrian entrance on Baronga Avenue;
- Construction of a new internal drop off and pick up area, as well as provision for an additional 17 staff car parking spaces, bicycle and bus parking, as well as waste and service vehicle loading area; and
- Construction of a new sports court complex, new outdoor learning gardens, and open space.

Figure 2 – Aerial View towards New High School Entrance at Gate 3, Baronga Avenue



Source: FJMT

1.2. REPORT STRUCTURE

This EIS provides the following:

- **Section 2:** A description of the site and surrounding context; including identification of the site, existing development on the site, and surrounding development.
- **Section 3:** A detailed description of the proposal.
- **Section 4:** An assessment of the proposal against the relevant statutory planning controls.
- **Section 5:** An assessment of the proposal against the relevant strategic planning policies.
- **Section 6:** A detailed description of the consultation undertaken with respect to the proposal.
- **Section 7:** An assessment of the key issues and impacts generated by the proposal.
- **Section 8:** Recommendations and mitigations and measures.
- **Section 9:** Summary and conclusions.

This EIS should be read in conjunction with the *Secretary's Environmental Assessment Requirements* attached at **Appendix A**, and the supporting technical documents provided at **Appendix B** - **Appendix FF**.

1.3. PROPONENT DETAILS

This EIS has been prepared on behalf of *Moriah War Memorial College Association* (Moriah College). Moriah College is an independent Modern Orthodox Jewish co-educational School. The College has operated from the Queens Park campus since 1994 and currently accommodates students across Preschool, Primary and High School educational levels.

A range of specialist consultants were engaged by Moriah College to assist with the preparation of the design documentation and technical studies, including:

Table 4 – Supporting Documentation

Document title	**Consultant**	**Appendix**
Quantity Surveyor Report	*WT Partnership*	Appendix B
Survey Plan	*Hill and Blume*	Appendix C
Operational Plan of Management	*Moriah College*	Appendix D
Urban Design Report and Architectural Drawings	*FJMT*	Appendix E
Landscape Report	*360*	Appendix F
Noise and Vibration Impact Assessment	*JHA Services*	Appendix G
Wind Assessment	*Windtech*	Appendix H
Visual Impact Assessment	*Cardno*	Appendix I
Road Safety Audit	*GHD*	Appendix J
Transport Impact Assessment	*The Transport Planning Partnership*	Appendix K
Ecologically Sustainable Development Report	*Northrop*	Appendix L
Heritage Impact Assessment	*Urbis*	Appendix M
Aboriginal Cultural Heritage Assessment	*Urbis*	Appendix N
Phase 1 Preliminary Site Investigation	*JBS&G*	Appendix O
Hazardous Materials Survey	*Banksia EOHS*	Appendix P
Geotechnical Assessment	*Douglas Partners*	Appendix Q
Stormwater Report	*JHA Services*	Appendix R
Biodiversity Development Assessment Report	*Cumberland Ecology*	Appendix S
Civil Services Plans	*JHA Services*	Appendix T
Arboricultural Impact Statement	*Botanics Tree Wise People*	Appendix U
Waste Management Plan	*Waste Audit*	Appendix V
Preliminary Construction and Environmental Management Plan	*AVER*	Appendix W

Document title	Consultant	Appendix
Disability Discrimination Act Report	*Morris Goding Access Consulting*	Appendix X
Engagement Report	*Urbis*	Appendix Y
Section 10.7 Certificates	*N/A*	Appendix Z
Lighting Strategy	*JHA Services*	Appendix AA
Mechanical Assessment	*JHA Services*	Appendix BB
Transport, Traffic and Parking Plan	*Moriah College*	Appendix CC
Structural Report	*Northrop*	Appendix DD
Preliminary Construction Traffic and Pedestrian Management Plan	*The Transport Planning Partnership*	Appendix EE
Hydraulics Services Report	*JHA Services*	Appendix FF

1.4. PROJECT OBJECTIVES

The proposal aims to achieve the following outcomes in a heavily constrained site:

- To replace dated and inefficient buildings with new and modern facilities that are aligned with contemporary teaching standards and methodologies;
- To provide a new STEAM and ILC building, as well as future ELC and Learning Hub (subject to detailed design), to meet the growing demand for high-quality educational facilities within the locality;
- Create both temporary and permanent job opportunities during the demolition, construction, and operational phase of the development;
- Create a new ‘front door’ for the campus on Baronga Avenue and a new entry to the high school;
- Increase open, green space for high school students to allow for greater social interaction and enhance collaborative knowledge sharing;
- Meet the future needs of a growing population by providing increased capacity for students and staff within the campus over the next 15+ years;
- Provide a safe and accessible educational establishment for current and future students, and implement CPTED principles to deter potential crime in the school design;
- Address vehicle circulation around Moriah College by consolidating staff and visitor parking and reorienting access away from residential areas on Queens Park Road.
- Create a series of high quality and modern teaching spaces which are flexible and promote increased social interaction among students and teachers; and
- Minimise overshadowing, overlooking, obstruction of light or air, noise, obstruction of views or any other such impacts on nearby properties.

1.5. PROJECT CONTEXT AND BACKGROUND

The proposal builds on previous work which has been undertaken by Gardner Wetherill who have progressively developed a School Master Plan over a period of 25 years since its original construction in 1994.

The Moriah College Queens Park Campus contains a number of dilapidated assets that require extensive maintenance (see Figure 3). A number of buildings and demountable located within the campus do not meet the educational requirements of the school.

The campus does not have a shortfall of classroom space. It does, however, have a shortfall of appropriate learning spaces, with the existing buildings being inefficient and outdated. The proposal's objective is to provide high quality, flexible spaces to suit contemporary teaching methodologies and technologies. The school is interested in providing flexible learning hubs which can facilitate both future focussed teaching methodologies.

The proposal also seeks to create a clear identity, entry, or a shared student gathering space for the high school which can be used for both informal and formal events. In addition, the proposal will provide greater connectivity to the landscape of the campus. This is achieved both through outdoor learning and also high-quality passive and active recreation areas.

Figure 3 – Existing Building Conditions

Source: FJMT

1.6. PREVIOUS APPROVALS AND OTHER RELEVANT APPLICATIONS

A chronological list of development consents relating to the campus is included at Section 3 of the Operational Plan of Management (**Appendix D**). A summary of the consents relevant to this application is included at Table 5.

Table 5 – Chronology of relevant development consents relating to this application

Application Reference	Description	Determination Outcome and Date
DA 97/84	Covert the existing buildings for school purposes on a temporary basis	APPROVED on 24 July 1984 with an expiration date of 31 December 1989
DA 193/86	Erect a high school	APPROVED on 23 October 1986
DA 179/92	Minor alterations to Phase B, Stage 1	APPROVED on 26 August 1992
DA 179/92 (amended)	Alterations to the approved synagogue and assembly hall building – Phase B	APPROVED on 25 November 1992
DA 254/92	Alterations and additions to the existing school buildings, swimming pool and gymnasium and to provide a junior school catering for an additional 350 students. A total of 960 students comprising 360 primary school and 600 high school students	APPROVED on 30 March 1993
DA 260/95	Carry out alterations to existing school	APPROVED on 24 October 1995
DA 97/115	A developmentally disabled facility	APPROVED on 26 May 1998
LD 160/98	Establish five demountable classrooms and on demountable toilet for a temporary period of 3-5 years	APPROVED on 17 November 1998 with an expiration date of 17 November 2001
LD 189/98	Construct alterations and additions to the existing school	APPROVED on 9 December 1998
LD 881/99	Alterations to two existing buildings and erect two temporary buildings for project and planning offices during construction of the expansion of the school campus	APPROVED on 3 February 2000
LD 282/00	Demolition, construction and refurbishment of education buildings together with the construction of new buildings, carparking, roadway and removal of remnant bushland.	Granted DEFERRED COMMENCEMENT CONSENT on 22 May 2001. The consent was activated on 29 November 2001
LD 902/01	Use of the DOCS administration buildings for school administration purposes	APPROVED on 9 March 2002
DA-540/2002	Continue the use of 5 metal framed demountable classrooms for another 3 years	APPROVED on 28 October 2002 with an expiration date of 28 October 2007
DA-567/2002	Construct new access gates to existing Boronga Avenue fence	APPROVED on 13 December 2002
DA-927/2002	Alterations and additions, minor demolition, internal wall partitioning and new floor infill	APPROVED on 12 May 2003

DA 446-10-2003	Construction of new primary school classrooms, related buildings and ancillary activities including playground areas, parking, access and landscaping on Lot 1 DP 701512	APPROVED on 21 October 2004
DA 205-8-2004	Partial demolition, internal and external alterations, landscaping, fencing, occupation and use of an existing building on Lot 1 in DP 701512	APPROVED on 31 January 2005
MOD 189-12-2005	Amend condition A2 regarding approved development.	APPROVED on 25 February 2006
DA-9/2007	Upgrade extension of boundary wall/fence treatment to improve security and soft landscaping and shade structure	APPROVED on 25 September 2007
DA-9/2007/A	Modification to consent DA09/2007, reorientation of shade structure	APPROVED on 12 August 2009
DA-163/2017	Conversion of existing building to Early Learning Centre	APPROVED on 22 November 2017
DA-71/2018	Removal of existing building and replacement with new single storey building and associated new landscaping	APPROVED on 14 May 2018

1.7. ANALYSIS OF FEASIBLE ALTERNATIVES

1.7.1. Site Selection

As described in Section 1.5, the proposal builds on the principles of the Moriah College Master Plan, prepared by Gardner Wetherill. The Master Plan has evolved over time to reflect the changing needs of the School and technological advances. In response to the identified need for new high quality, flexible spaces to suit contemporary teaching methodologies and technologies, FJMT were tasked with analysing the site and identifying suitable locations for future redevelopment that are able to meet the project specific objectives identified in Section 1.4.

The southern portion of the Senior School Campus was identified as the optimum location for the proposed redevelopment due to:

- Buildings in this area of the campus were assessed as being of poor quality and condition.
- Potential impacts on the residential area of Queens Park could be minimised.
- Overshadowing of existing recreational spaces and the public domain could be minimised.
- Offers the unique opportunity to re-orientate the Senior School Campus, providing vehicle and pedestrian entry from Baronga Avenue and York Road, away from the residential areas of Queens Park.
- The existing slope in the land could be utilised to provide basement car parking and reduce visual impacts on the locality.
- Ability to significantly increase the amount of recreational space and landscaping in the centre of the site by locating built structures on the periphery.
- This portion of the campus is currently underutilised.

- The construction site could be isolated, ensuring works could occur with minimal impact on the ongoing operations of the School.
- Works could be staged over time to allow the construction of new buildings, decanting of existing buildings, demolition of buildings in poor condition, and delivery of landscape works.

1.7.2. Site Opportunities

The following eight site opportunities were identified by FJMT and have been used to guide site planning and concept proposal as it evolved.

1. Fostering a greater connection between the park and the campus
2. Improvement to existing traffic management for the Senior School
3. Creation of a new community forum at Baronga Avenue
4. Provision of contemporary, adaptable and flexible learning environments
5. Simplification of all open space areas in the school to maximise usability.
6. Considerations of through site link and clarity of wayfinding
7. Landscaping design that considers the opportunities that would arise from a unified approach to the School and the park
8. Creating of an upgraded sporting hub.

Figure 4 - Site Opportunities

Source: FJMT

1.7.3. Evolution of the Proposal

The building envelopes and proposed works have evolved through the design development process, incorporating feedback from the School community, stakeholders, the local community, the NSW Government Architect's Office, Waverley Council, and technical advisors.

The proposal responds strongly to the site opportunities and constraints, while achieving the project specific objectives. It is considered the best response to both the site and surrounding context.

1.7.4. Project Alternatives

Alternatives to the current proposal include the 'do nothing' scenario which would not achieve the project objectives. The consequences of not carrying out the project are far reaching and include:

- Failure to provide suitable learning facilities for current and future students and teachers;
- Failure to accommodate the growing demand for improved learning facilities within the locality;
- Failure to provide additional recreation and sporting facilities for current and future students;
- Failure to provide suitable working conditions for teaching and administrative staff;
- Failure to create a more accessible campus for staff, students, and visitors;
- Failure to better utilise the existing school site and buildings; and
- Increased maintenance costs of degraded sub-standard buildings.

2. SITE AND SURROUNDING CONTEXT

2.1. THE SITE

The site is known as Moriah College and is located within the suburb of Queens Park, which is approximately 6 kilometres south east of Sydney's CBD. The subject site is irregular in shape and is bounded by Queens Park Road to the north, Baronga Avenue to the east, and York Road to the south and west. It comprises three lots and extends to an area of 4.51 hectares.

Table 6 below details the legal description and address of the site:

Table 6 – Lot Description

Address	Legal Description
101 York Road, Queens Park	Lot 22 in DP 879582
1 Queens Park Road, Queens Park	Lot 1 in DP 701512
3 Queens Park Road, Queens Park	Lot 3 in DP 701512

Figure 5 – Site Location Plan

2.2. EXISTING DEVELOPMENT

Moriah College is an independent Jewish School which was established in 1943. The school has operated from the existing Queens Park Campus since 1994 and currently accommodates students across Preschool, Primary, and High School education levels. The school operates from the main campus at Queens Park as well as five ELCs, including the Randwick centre situated at 100 King Street, Randwick.

The site contains an existing school campus with the following buildings and improvements:

- **101 York Road**: is irregular in shape and has an approximate area of 4,830m². The lot is situated towards the southern end of the school campus and currently contains a single-storey classroom building, a hardstand amphitheatre, and landscaping. There is no significant vegetation located within the lot.
- **1 Queens Park Road**: has an approximate area of 1.45 hectares. The lot comprises the junior school campus for Moriah College and accommodates a series of classroom and administration buildings, and associated facilities, play-spaces, and car parking. At the western boundary of the lot is an existing entry / egress point on York Road, used for staff and visitor parking, and student drop-off and pick-up.
- **3 Queens Park Road**: has an approximate area of 2.6 hectares. The lot comprises the main senior school campus for Moriah College and comprises a series of classroom and administration buildings, and associated facilities, landscaping, and car parking. At the southern end of the lot is an existing entry / egress point on York Road (known as Gate 9), used for staff car parking, and two outdoor tennis courts.

Figure 6 – Aerial Photo

The campus is divided into 18 identified buildings which include different provisions and services. Figure 7 below provides a detailed existing site plan of the campus.

Figure 7 – Existing Development

Source: Gardner Wetherill

2.3. SITE CONTEXT AND SURROUNDING DEVELOPMENT

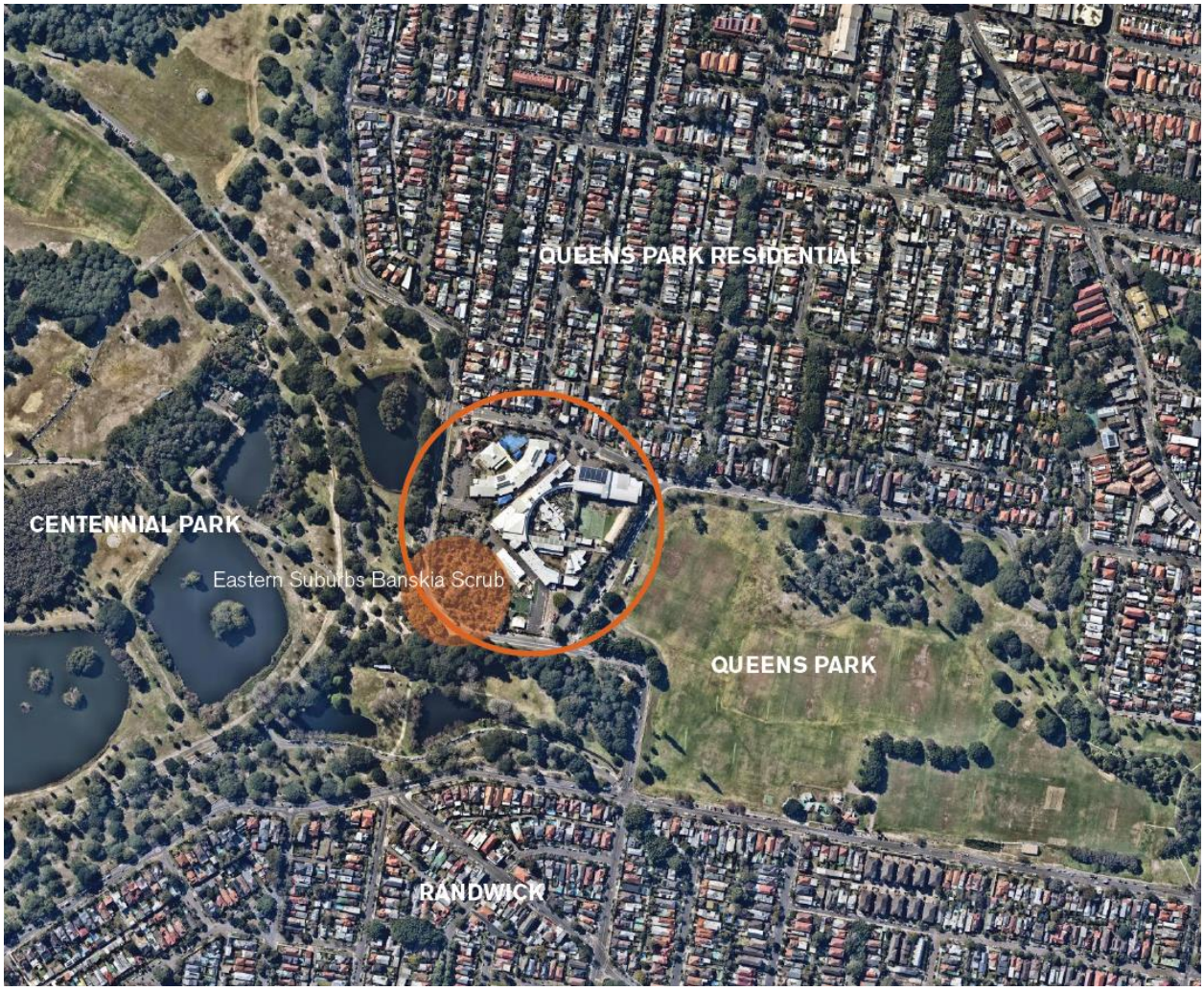
The site located within the suburb of Queens Park which is a small suburb located within the eastern suburbs of Sydney to the south of Bondi Junction.

Development in the surrounding area is summarised as follows:

- **To the north** is the residential are of Queens Park comprising predominantly single and two storey dwellings. Further north is the major centre of Bondi Junction which includes a Westfields shopping centre and other local services and entertainment facilities.
- **To the east** is Queens Park which is a 26-hectare public open space which forms part of the Centennial Parklands and includes a playground and sporting fields. Further east is Bronte Beach and north east is Bondi Beach.

- **To the south** of the site is the Centennial Parklands, and directly south west of the subject site is an area of Eastern Suburbs Banksia Scrub.
- **To the west** is Centennial Parklands and further north west is Moore Park which includes Fox Studios, and major sporting stadiums. Further west, approximately 6 kilometres, is Sydney's Central Business District.

Figure 8 – Site Context Plan



Source: FJMT

2.4. TRANSPORT NETWORK

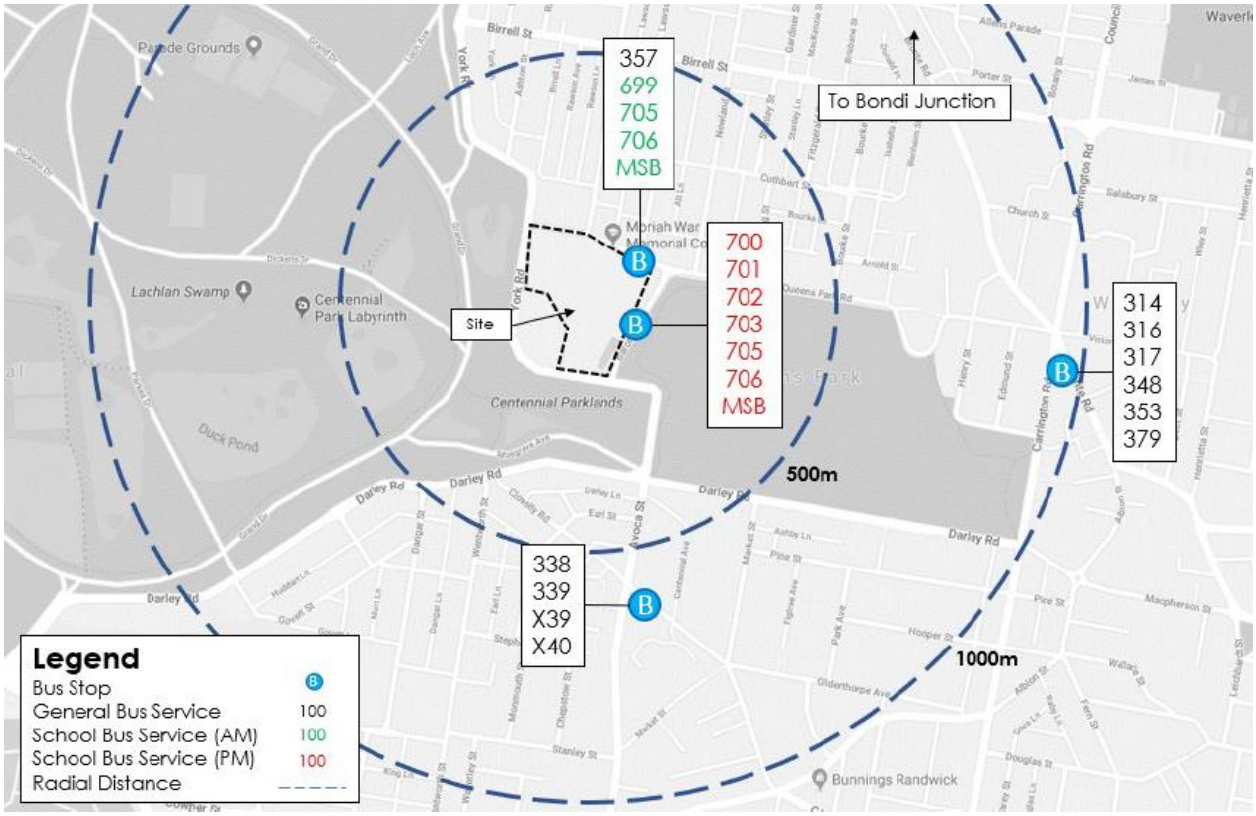
The subject site benefits from bus connections along Queens Park Road which are serviced by the 357 bus which travels to Bondi Junction to the north, and Mascot Railway Station to the south west. Bondi Junction Railway Station is approximately 15-20 minutes walking distance from the site. The station is located on the T4 Eastern Suburbs & Illawarra Line which travels through Sydney's CBD to south western suburbs of Sydney including Cronulla and Helensburgh.

Figure 9 below displays bus services within proximity to the site. In public transport services, the College currently has arrangements with the State Transit Authority for special school bus services to deliver and pick up students in the morning and afternoon. In addition to this, the College provides shuttle bus services between the Bondi Junction/Maroubra area and the site. This shuttle bus services (Moriah Shuttle Bus, MSB) supplements the regular bus services each school day. Students can be collected from any bus stop along the designated route.

Key roads which provide access to the site include:

- York Road (Regional Road)
- Queens Park Road (Local Road)
- Baronga Avenue (Local Road)

Figure 9 – Bus services in proximity to the site



Source: The Transport Planning Partnership

2.5. SITE ACCESS

2.5.1. Vehicular Access

The College currently provides three vehicular access gates along York and Queens Park Road. No vehicular access points are currently provided off Baronga Avenue.

These vehicular access points are referred to as Gate 1, 2 and 4 and provide access to the existing three car parks along the York Road (west), Queens Park Road, and York Road (south) site frontages respectively (see Figure 10).

2.5.2. Pedestrian Access

The site has well established pedestrian facilities within the immediate vicinity of the site. Sealed pedestrian footpaths are provided along the site frontage, with dedicated pedestrian facilities provided along York Road, Queens Park Road and Baronga Avenue in the form of pedestrian refuges or pedestrian (zebra) crossings. At present, these pedestrian facilities are heavily used during school peak drop off and pick up times.

2.5.3. Pick up and Drop off Activities

The existing drop off and pick up activities for students are managed by the College with all parents required to display their designated number on their vehicles to access the facilities. Existing pick up and drop off arrangements are as follows:

- **Primary School:** Currently provided within the school accessed from Gate 1 off York Road. Approximately 6 parking bays are provided and managed by site personnel to assist children in and out of vehicles. Queues on approach to the designated parking bays are wholly internal to the site via a loop road through the car park. This loop road can cater for approximately 48 vehicles.
- **Secondary School:** An indented parking area is provided on York Road along the southern boundary of the site opposite Gate 4. The indented bay can accommodate for approximately four to five vehicles and the queues before dropping off students spill onto the shoulder lane during the school PM peak periods.
- **Early Learning Centre:** pick up and drop off activities are undertaken within the south car park off York Road accessed via Gate 4. At present a total of 13 spaces are designated for drop off and pick up activities which occur between 7:30am and 8:30 m in the morning and between 4:30pm and 6:00pm in the evening.

Figure 10 – Site vehicular Access Points

Source: The Transport Planning Partnership

2.6. FLORA AND FAUNA

Generally, the composition, structure and function of vegetation within the site and the surrounding landscape have been altered do not resemble any naturally occurring plant community types. The site comprises an artificial landscape with planted garden beds and isolated trees situated throughout the campus. The woody vegetation within the subject land predominately forms a single mapping unit of 'Urban Native/Exotic vegetation'. A small area of Eastern Suburbs Banksia Scrub also extends on the subject land from the adjacent conservation area.

A Biodiversity Development Assessment Report is provided at **Appendix S**.

2.7. HERITAGE AND ARCHAEOLOGY

2.7.1. European Heritage and Historical Archaeology

The subject site contains two landscape conservation areas: Conservation Area – Landscape: Eastern Suburbs Banksia Scrub (C57) and the Conservation Area – Landscape: Remnant Bushland (C40).

Details of the significance of these landscaped conservation areas are provided in a Heritage Impact Statement at **Appendix M**.

2.7.2. Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment Report has been (ACHAR) has been prepared by Urbis to accompany the proposal and is contained at **Appendix N**.

The report has confirmed that the site does not contain any registered Aboriginal objects and/or archaeological sites within the subject area. Further detailed assessment of the aboriginal heritage potential of the site is contained at **Section 7.11** of this EIS.

2.8. TOPOGRAPHY

The site has an elevation of approximately 55m Australian Height Datum (AHD) and generally slopes to the south and south west towards the Centennial Parklands.

2.9. SERVICES

The site is connected to all necessary services including water, gas, electricity, communications, and sewerage. Where required essential services can be extended or modified to meet the needs of the proposal.

3. DESCRIPTION OF PROPOSAL

3.1. DEVELOPMENT OVERVIEW

The SSDA seeks concept approval for the staged redevelopment of the southern portion of the Senior School Campus. It also seeks consent for the first stage of building works.

The project seeks to:

- Re-orientate the High School Main Entrance away from the residential areas of Queen's Park. The High School Pedestrian Entrance will be at Gate 3 on Baronga Avenue and the Vehicular Entrance will be at Gate 4 on York Road, south.
- Provide an improved traffic management system with on-site Drop Off and Pick Up for the High School students and the Early Learning Centre entering from York Road (Gate 4).
- Provide enhanced visitor parking for after-hours School Community Events accessed from Gate 4, York Road.
- Provide a new contemporary learning facility in Stage 1 to replace existing building stock which is 25 years old. This facility will provide updated environments for Science, Technology, Engineering, Art and Mathematics (STEAM) and an Independent Learning Centre, including a new High School Library.
- Provide for the future development of a new Early Learning Centre (ELC) and college teaching rooms in Stage 2.
- Provide significantly improved external recreational areas for the school community, including additional landscaped areas with a focus on increasing the parkland setting of the campus.
- Enable the growth of the student numbers to developed in stages over a period of time.

The first stage of works will include:

- Staged demolition of existing buildings and structures, removal of existing tennis court and trees;
- Construction of a new part three, part four-storey STEAM Building and ILC;
- Creation of a new student and visitor pedestrian entrance on Baronga Avenue;
- Construction of a new internal drop off and pick up area, as well as provision for an additional 17 staff car parking spaces, bicycle and bus parking, as well as waste and service vehicle loading area; and
- Construction of a new sports court complex, new outdoor learning gardens, and open space.

The key components and features of the proposal are summarised in Table 7 below.

Table 7 – Key Development Components

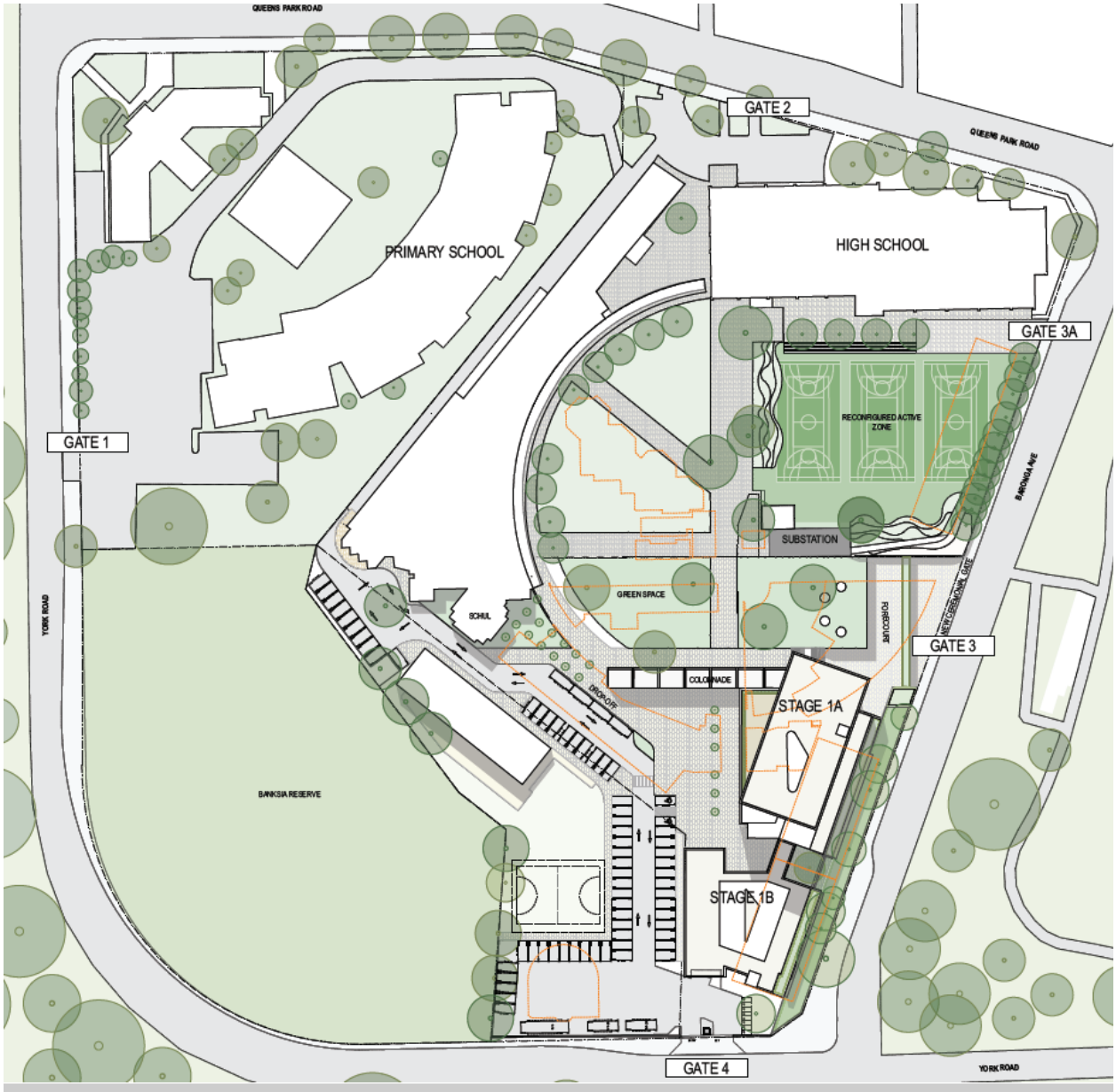
Aspect	Description
Staging	The proposed redevelopment of the senior school campus is to be undertaken in two stages. This SSDA seeks to establish approval for building envelopes, as well as the construction works associated with Stage 1 only. The future Stage 2 detailed design would be subject to a separate development application. The proposed staging is outlined in the Design Report and Architectural Drawings and can be summarised as follows: • **Stage 1A & 1B:** demolition of existing buildings and structures, construction of a part three, part four-storey STEAM and ILC building, parking and new vehicular circulation arrangements, a new 'front door' of the campus to Baronga Avenue, and associated works. • **Stage 1C:** demolition of existing buildings and structures, construction of new recreational spaces and landscaping works. • **Stage 2:** future development of a three-storey ELC building and Learning Hub, subject to detailed design and approval.
Site Area	The site to which the proposal relates has an area of approximately 3.12 hectares.
Demolition	The proposal includes the staged demolition of selected buildings and structures on the site. Refer to the Architectural Drawings at **Appendix E** for further detail.
Earthworks	Earthworks are proposed to facilitate the construction of the new STEAM and ILC building.
Uses	Consent is sought for the continued use of the site for the purposes of an educational establishment.
Access	Vehicle and pedestrian access to the campus is to be significantly improved as part of the proposal. Gate 4 is to provide access to the High School student internal drop-off and pick-up loop road, as well as staff and ELC parking, loading and waste services. Gate 3 is to be transformed into the 'front door' of the Senior School Campus providing pedestrian access for students, staff, parents and visitors.
Car Parking	The concept proposal seeks an increase of 17 on-site car parking spaces. These are to be delivered as part of the Stage 1 building works.
Public Domain and Landscaping	Consent is sought for a comprehensive landscaping strategy comprising both hard and soft landscaping, including planting of trees, shrubs, and groundcovers which comprise of native species to the area, as well as pathways to pedestrian access points, playground areas, sporting fields, gardens, and a range of furniture and lighting.
Utilities connections	Consent is sought to connect the proposed buildings to essential utilities.
Stormwater Drainage	Consent is sought for stormwater drainage works.
Operation hours	The School will continue to operate in accordance with the approved Plan of Management provided at **Appendix D**. No change is sought to the approved hours of operation being *6am to 6pm during winter (Australian Eastern Standard Time); and 6am to 8pm during summer (Australian Eastern Daylight Time)* or the approved *Out of 'Core Hours' Activities* and procedures.

Aspect	Description
Number of students and staff	Moriah College currently has an approved maximum capacity for 1680 students, including no more than 80 ELC students. Approval is sought to increase the maximum capacity by a total of 290 students incrementally over a 15+ year period. The school campus currently has 276 staff members, which is proposed to be increased by 26 (302 total) to accommodate the additional student numbers.
Jobs	During the construction of both stages a total of 224 jobs will be created. During the operation phase up to a total of 125 jobs will be created.
CIV	Stage 1 - $62,722,058 Stage 2 - $18,990,516 Total - $81,712,574

Figure 11 – Photomontage of the proposed development

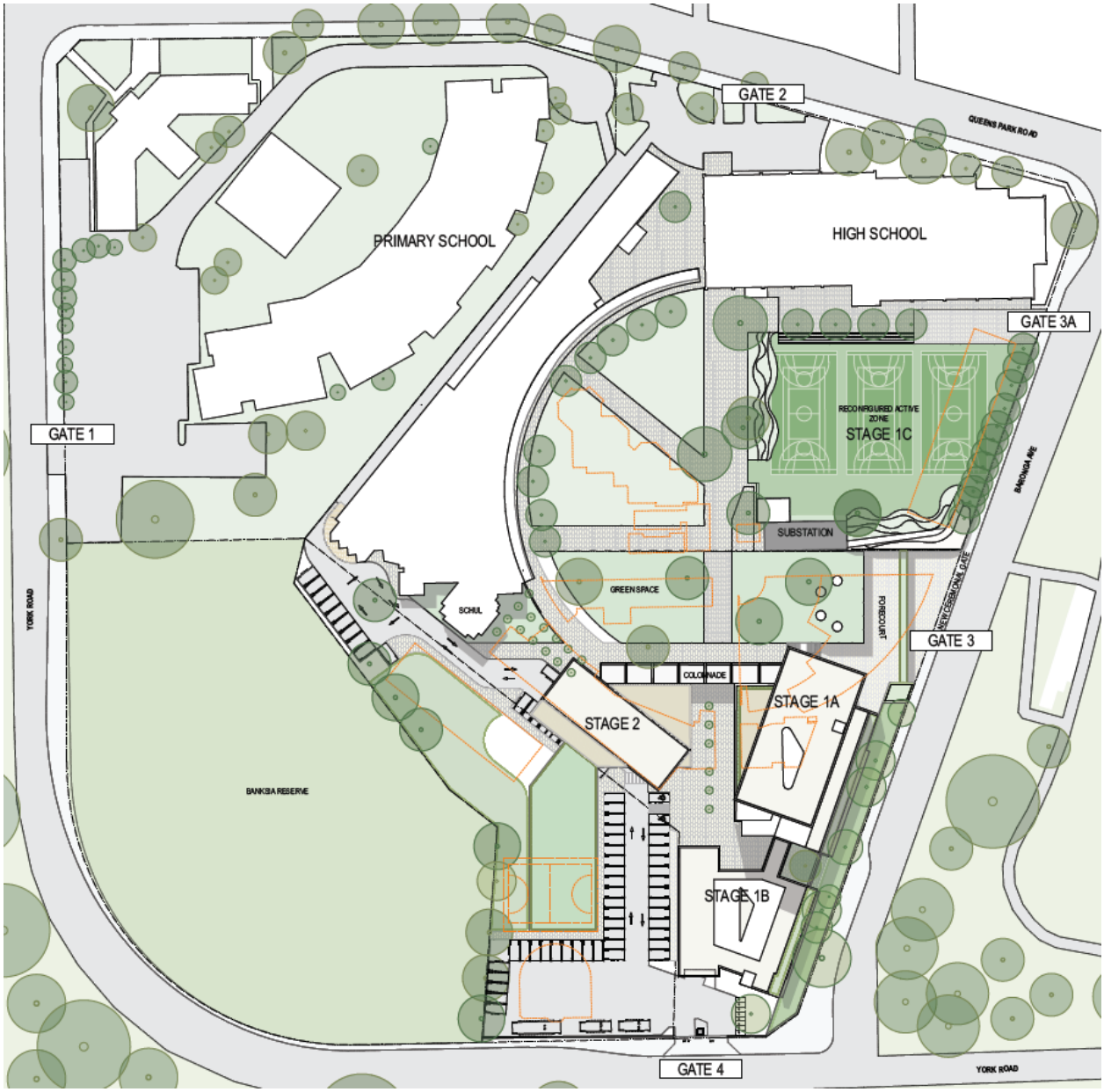
Source: FJMT

Figure 12 – Stage 1



Source: FJMT

Figure 13 -Stage 2



Source: FJMT

3.2. BUILDING ENVELOPE

Stage 1

Consent is sought for the construction of a part 3 and part 4 storey STEAM and ILC building within the south eastern portion of the site. A level by level description of the building is provided as follows:

- Lower ground level: reception and entrance, 250 seat auditorium, administration space, car parking, and main stores.
- Upper ground level: student café, executive space, design and technology rooms including a fabrication laboratory.
- Level 1: classrooms for Physics, Chemistry, and Maths.
- Level 2: STEAM classrooms for food technology, and a Library.
- Level 3: Library, administration space, learning terraces, and plant.

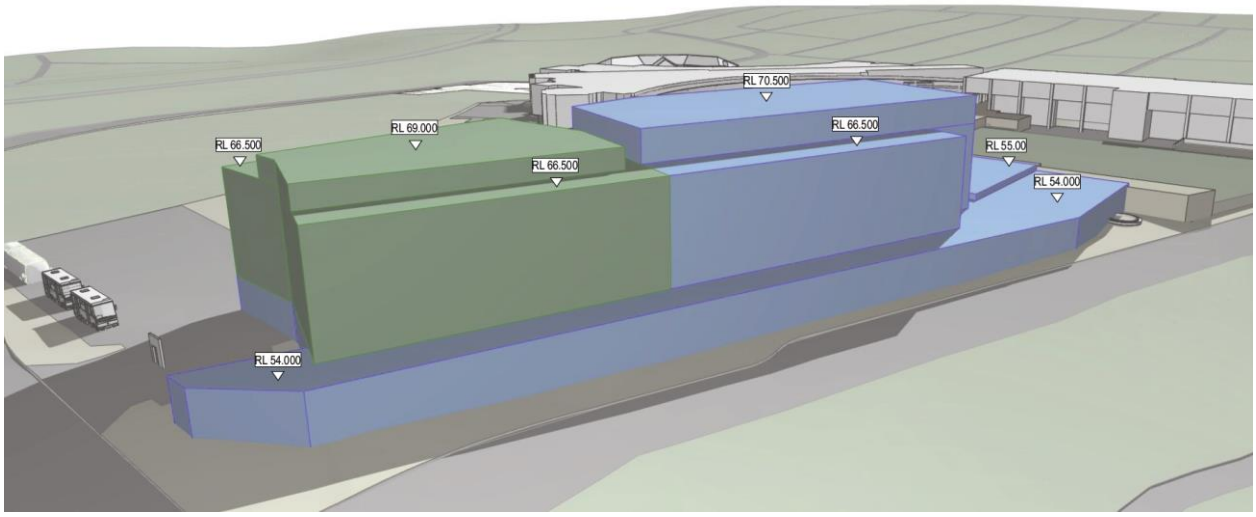
The stage 1 building form is conceived as a series of elements to break down the scale of the built form when viewed against the skyline from the east and south. The length of the building is parallel to Baronga Avenue and is built to the edge of the boundary to act as a security line.

The eastern elevation (of the upper ground and level 1) is divided into two built form elements. This reduces the scale of the façade and also provides the opportunity for visual connection between the campus and its external environment.

Level 2 is even further set back along Baronga Avenue and is expressed as a landscaped terrace. The upper most level cantilevers over the main form to signify the new identity of the high school portion of the campus.

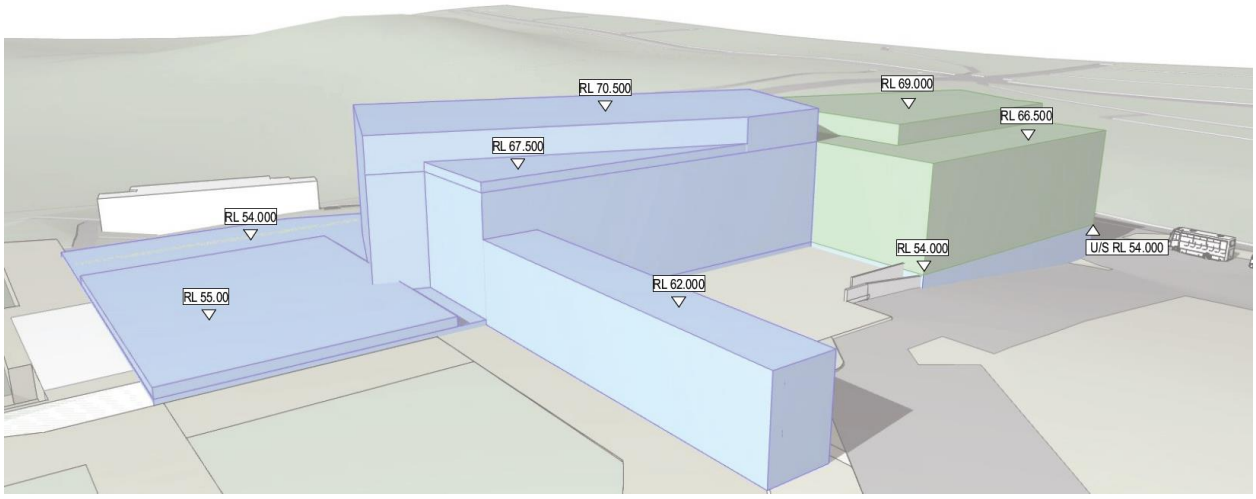
The Stage 1 envelope massing is depicted in Figure 14 and Figure 15.

Figure 14 – Stage 1 Envelope Massing – Eastern Elevation



Source: FJMT

Figure 15 – Stage 1 Envelope Massing – Western elevation



Source: FJMT

Stage 2

Consent is sought for a three-dimensional building envelope in which a future three-storey building is to be located, subject to detailed design. The built form of the Stage 2 envelope is conceived as three interlocking forms. The form of the south is single storey with an activated and landscaped roof. The form of the north spans over the new internal access roadway which is to be constructed during Stage 1 and addresses the new green connector. The upper most form is angled to minimise overshadowing and respond to the Shul.

The concept reference drawings indicate that the building could potentially comprise:

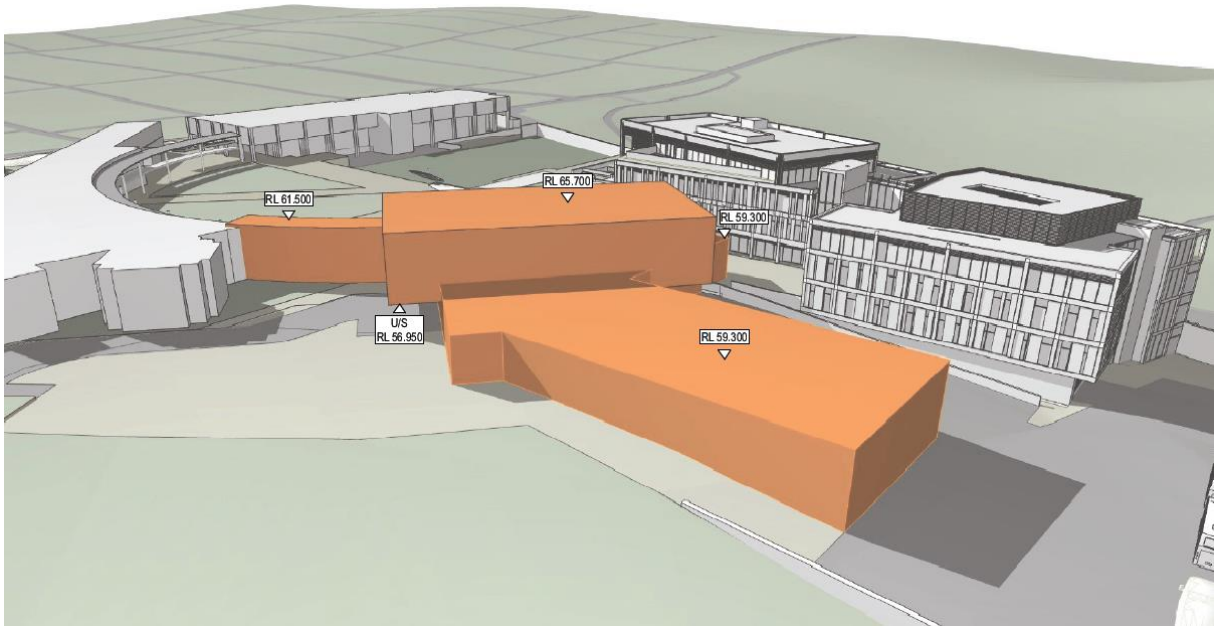
- Upper Ground Floor: ELC space.
- Level 1: High tech hub, admin spaces and ELC outdoor area.
- Level 2: High tech hub.

A summary of the built form characteristics of the proposed Stage 2 building envelope is detailed Table 8. The Stage 2 envelope massing is depicted in Figure 16.

Table 8 – Stage 2 Building Envelope

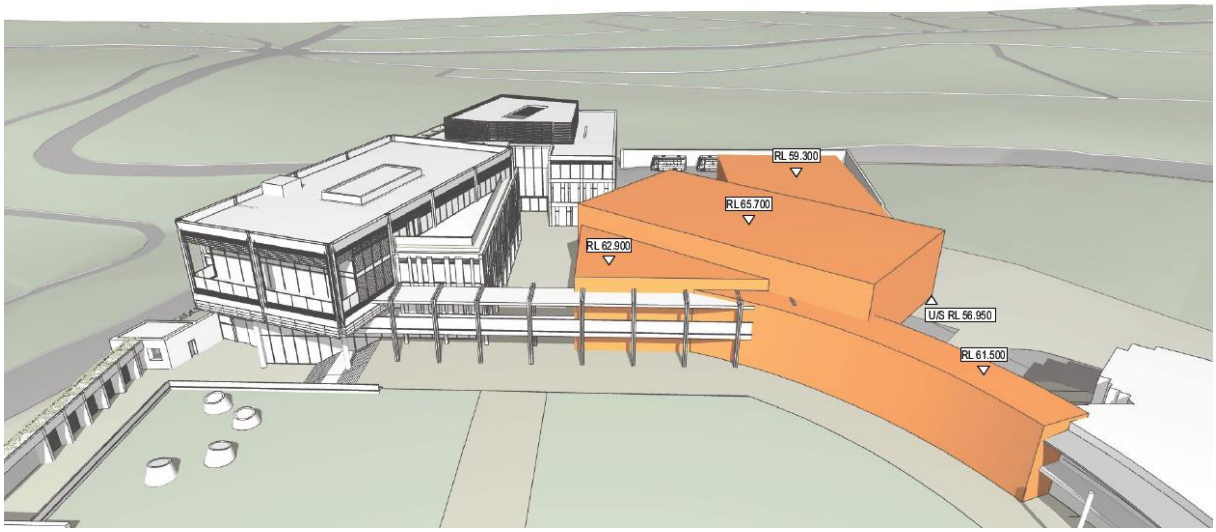
Component	**Proposal**
Height and Scale	Three-storey building Maximum Building height of 11.6m
Building Setbacks	The envelope is setback as follows: • Southern Setback – (York Road): approximately 63m. • Northern Frontage (Queens Park Road): approximately 150m • Western Boundary – (Environmental Conservation Area): approximately 30m • Eastern Setback – (Baronga Avenue): approximately 55m
Gross Floor Area	1,603.6m^2 over three levels.

Figure 16 – Stage 2 Building Envelope



Picture 1 – View from the south west

Source: FJMT



Picture 2 – View from the north

Source: FJMT

3.3. STUDENT AND STAFF NUMBERS

The school campus currently has an approved maximum capacity for 1680 students, including no more than 80 ELC students. Approval is sought to increase this maximum capacity by a total of 290 students to 1970, including no more than 130 ELC students.

It is anticipated that the proposed increase in students will occur progressively over a 15+ year timeframe, as outlined in Table 9.

Table 9 – Student Increase

Year	ELC	K-12	Total	Difference
Current Student Cap	80	1600	1680	-
Proposed 2023 (completion stage 1)	80	1760 (+160)	1840 (+160)	Additional 160 students in K-12
Proposed 2030 (completion of stage 2)	130 (+50)	1800 (+40)	1930 (+90)	Additional 40 students in K-12 + Additional 50 students in ELC
Proposed 2036+	130	1840 (+40)	1970 (+40)	Additional 40 students in K-12

In accordance with the approved Plan of Management, Moriah College is required to ensure the staff population is maintained at reasonable numbers of full time or part time staff necessary to implement the College educational curriculum. The College currently employs approximately 276 full time and part time staff. It is anticipated that an additional 26 staff will be required over the 15+ year timeframe to accommodate the proposed increase in students across ELC and K-12.

3.4. COMMUNITY USE OF FACILITIES

In accordance with Waverley Council DA Consent 86/193 the Moriah College Swimming Pool, Gymnasium and Auditorium are made available for general public use. In addition, the School facilities are made available for use by the Jewish community. These 'out of core hour' activities are detailed in the approved Plan of Management.

3.5. DEMOLITION

To facilitate the proposed development, the staged demolition of selected school buildings and structures is required. In particular demolition of existing buildings A, B, C, D, J, E and removal of demountable buildings S, D, Z is proposed.

The demolition of the above structures will be undertaken in accordance with the Construction Management Plan provided at **Appendix W**. Demolition will be staged in accordance with construction staging and where possible will be scheduled outside of school term times as far as practical to avoid disturbance. Demolition plans are provided within **Appendix D**.

3.6. PARKING AND SITE ACCESS

A Transport Assessment has been prepared by TTPP to accompany this proposal and is contained at **Appendix K**. The report summarises the proposed parking and access provisions for the site as described below.

3.6.1. Parking

The site currently provides a total of 201 on-site parking spaces, including four motorcycle spaces. A total of 161 of these spaces are dedicated to staff members including four motorcycle spaces. The additional spaces are dedicated to visitors.

The proposal seeks consent for an additional 17 on-site car parking spaces to cater for the increased staff numbers and ELC provisions. No on-site car parking would be provided for College students as per existing conditions. Following the concept proposal there will be a total of 218 on-site parking spaces.

Figure 17 – Parking and Vehicle Access Plan

Source: Traffic and Transport Planning Partnership

3.6.2. Transport Traffic and Parking Plan

In order for the College to operate safely, efficiently, and to minimise disruption to its neighbours, it implements and enforces a Transport and Parking Plan. This preparation of this plan been informed by consultation with Council, the State Transit Authority, and representatives of residents living in the surrounding neighbourhood.

The plan is available online via the college's website and is included at **Appendix CC**. It includes the following details:

- Public transport and school bus information;
- Student morning drop off arrangements including details of the "go with the flow" system further detailed below;
- Student afternoon pick up arrangements;
- Year 12 student use of vehicles rules and restrictions. This includes detailing the "no parking zone" which includes the area bounded by the northern side of Birrell Street, the western side of York Road, the eastern side of Bourke Street, and Darly Road on the south; and
- ELC – Drop-Off and Pick-Up arrangements.

3.6.3. Service Vehicles

Service and emergency vehicle access will continue to be provided as per existing conditions. A new loading area is proposed within the southern car park accessed from York Road to service the new STEAM building. Swept path analysis has been undertaken by TTPP which demonstrates that all anticipated service vehicles can enter and exit the site in a forward direction. This loading area will be managed by the College to ensure servicing requirements are undertaken outside of school peak times to minimise interactions between vehicles and pedestrians.

3.6.4. Drop-off and Pick-up Zone

The proposal maintains the existing drop-off/pick-up arrangements for the primary school and ELC with pick up and drop off occurring wholly within the site.

It is proposed to relocate the existing on-street drop-off/pick-up facilities on York Road (south) so that they take place entirely within the site in the south car park. This new drop-off/ pick-up area is proposed to be allocated for secondary students via a loop rood system, similar to the existing drop-off/pick-up area already provided for the primary school. This loop road will enable queuing to occur within the site to minimise on-street queueing.

All drop-off/pick-up activities will be managed by the College in accordance with the Transport Traffic and Parking Plan as per existing conditions to minimise traffic and parking impacts on the surrounding road network in consultation with Council. All parents will be required to pre-register their vehicle to access the designated drop-off/pick up areas as per existing conditions.

3.6.5. Bicycle Parking

The proposal provides for an additional 108 bicycle parking spaces in accordance with the DCP. The school already provides end of trip facilities including showers and change room facilities.

3.6.6. Pedestrian Access

Pedestrian access is proposed to remain consistent with the existing campus arrangements. Gate 3 on Baronga Road is proposed to be significantly improved to create a new front door for the campus. This includes a proposed new urban forecourt which provides a zone for waiting and a break in the landscaped wall aligning with the eastern boundary of the site.

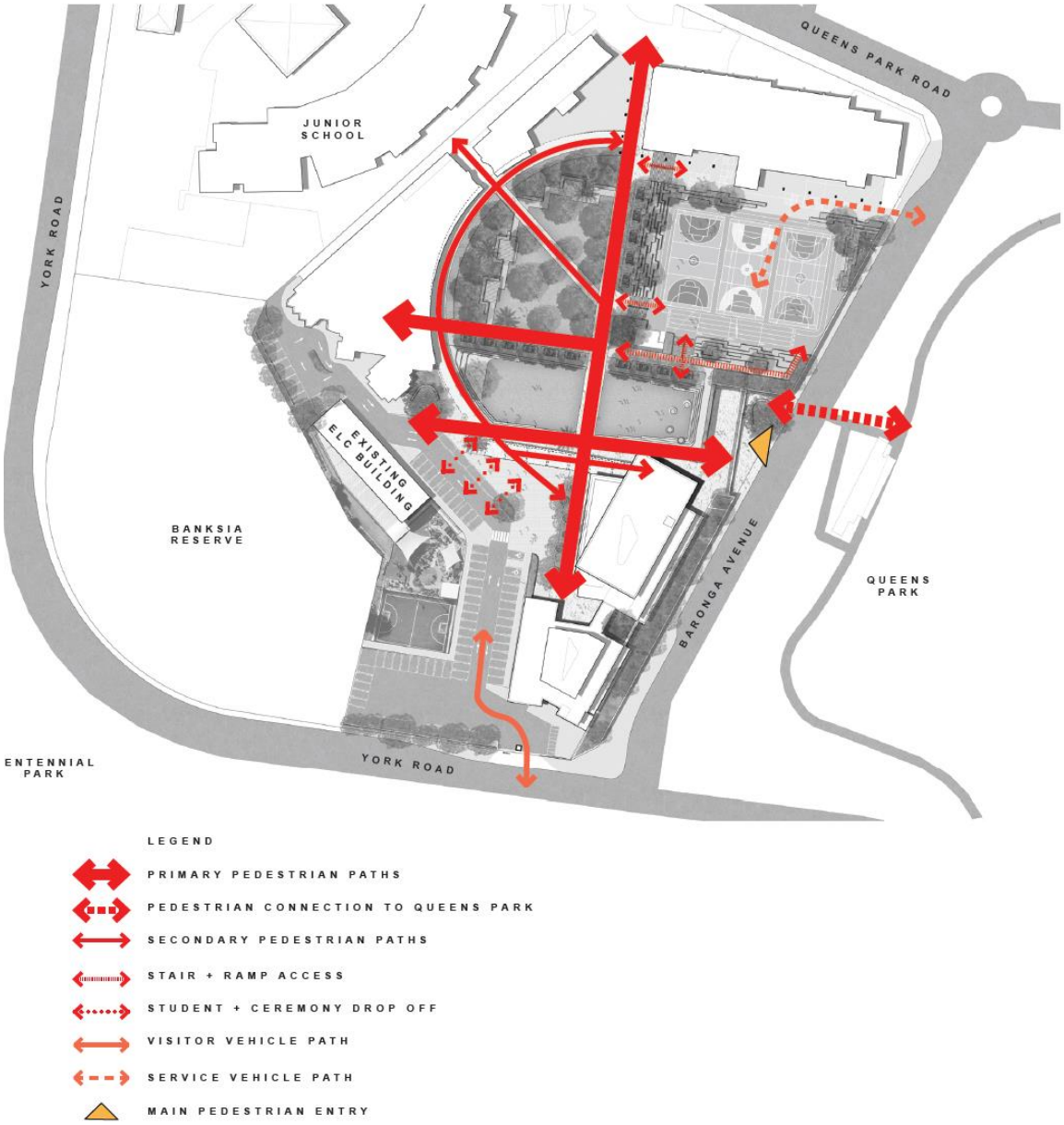
The Landscape Report at **Appendix F** details a circulation strategy for the campus (see **Figure 18**). The legibility of the campus is enhanced by the proposal through the creation of a network of paths, to create a high quality functional campus environment.

3.6.7. Security Strategy

The Landscape Report at **Appendix F** includes a security strategy for the campus. The campus has strict security requirements that have been implemented into the proposal design. These measures are detailed in **Figure 19** below.

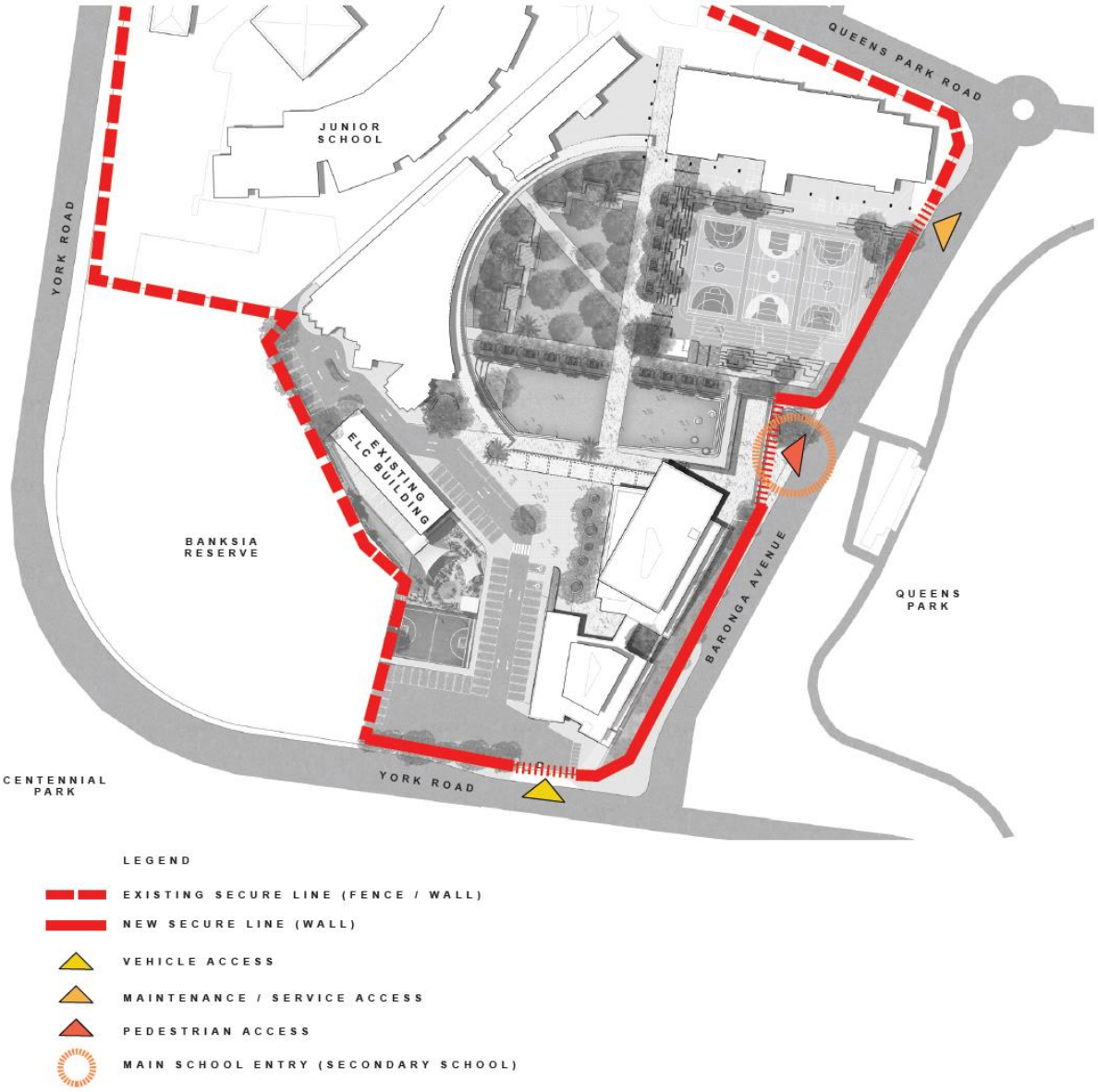
A clear connection between the campus entrances and functional areas has been created. This supports and improves the security and sense of safety for staff, students, and visitors. Provision of clear sight lines, lightings, and points of entries improves passive surveillance and campus wide security.

Figure 18 – Circulation Strategy



Source: 360 Degrees

Figure 19 – Security Strategy



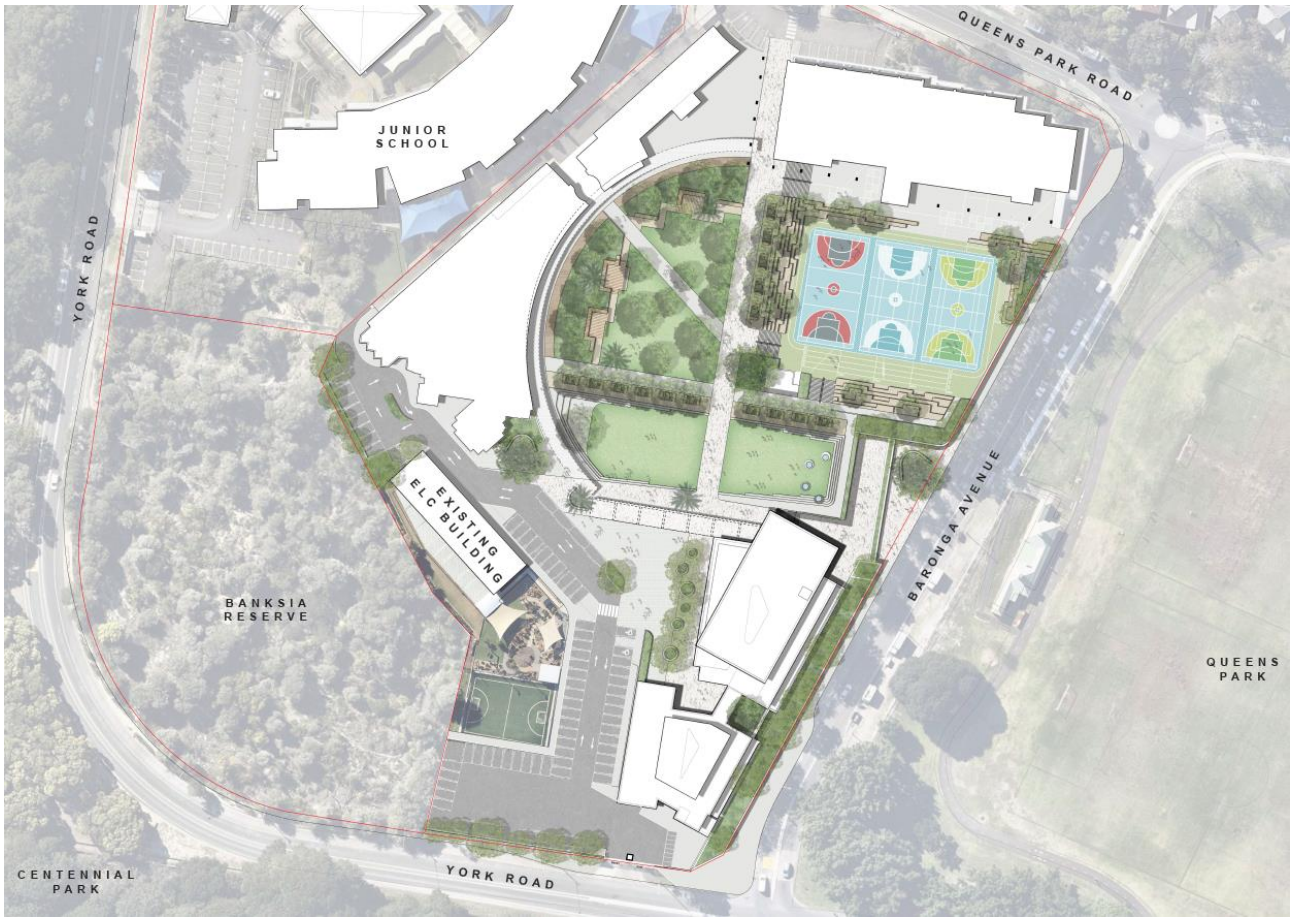
Source: 360 Degrees

3.7. PUBLIC DOMAIN AND LANDSCAPING

A Landscape Report has been prepared by FJMT and is attached at **Appendix F**. The landscaping strategy is described as follows:

- Central lawn: located in the central portion of the senior school are and adjacent to the new campus front door at Baronga Avenue. This space will accommodate outdoor learning, social and cultural gathering, assembly, and performances.
- Active courts: located in the north eastern portion of the senior school campus. This space includes multi use sports courts that can be utilised for a variety of games.
- Reflection garden: Located directly to the west of the active courts. This space allows for the growth of edible, medicinal, and functional plants to allow students to test their theoretical knowledge in practical applications.
- Atrium gardens: this space surrounds the proposed STEAM building. This is the highly active heart of the campus defined by the nexus of the internal Street drop-off, the exiting curved walkway and the through-site for the Baronga Avenue Campus entry
- Cultural narrative: The landscaping design references the school's cultural teachings and will be infused with elements, details, materials and planting that reflect the religious identity, the sites indigenous and ecological significance, Australian cultural history as well as its global future as a benchmark of progressive, multi-cultural learning. A significant public art contribution is proposed at the school's main entry and along the wall fronting Baronga Avenue.

Figure 20 – Landscape Masterplan – Stage 1



Source: 360 Degrees

3.8. WASTE MANAGEMENT

A Waste Management Plan has been prepared by Waste Audit and is contained at **Appendix V**. The report provides for the demolition, construction, and ongoing waste management onsite.

3.8.1. Construction and Demolition Waste

An outline of the proposed Construction and Demolition Waste Management is included at Sections 3 - 6 of the Waste Management Plan at **Appendix V**. The aim of this Plan is to ensure that all waste resulting from demolition and construction activities are managed in an effective, safe and environmentally aware manner.

It is estimated that the following volumes of waste will be generated by the proposal during the demolition and construction stage:

- Demolition related waste: 2,625m^3.
- Construction related waste: 246m^3.

Wastes generated on the site during construction will be managed and minimised by a combination of waste planning initiatives and on-site controls. Waste planning initiatives will include:

- Purchasing materials that will result in less waste, which have minimal packaging, are pre-cut or fabricated
- Not over ordering products and materials
- Identify all waste products that can be reused
- Put systems in place to separate and store reusable items
- Identify the potential applications for reuse both onsite and offsite and facilitate reuse
- Provide systems for separating and stockpiling of recyclables
- Provide clear signage to ensure recyclable materials are separated
- Process the material for recycling either onsite or offsite
- Ensure the chosen waste disposal contractor complies with regulatory requirements
- Implement regular collection of bins

3.8.2. Ongoing Operation Waste

An outline of proposed Operational Waste Management measures is included at Section 2 of the Waste Management Plan at **Appendix V**. Based on the development profile, the following are the waste streams that would be expected on a regular basis:

- Comingled recycling (including cardboard/paper, glass, and plastic containers);
- General waste; and
- Garden waste.

Calculations for the types and quantities of waste that will be generated have been based on current waste generation for the College and comparisons with similar size schools as determined by audits conducted by Waste Audit. To manage the volumes, the following are provided:

- General waste: 49 x 240 litre and 19 x 66 litre Mobile Garbage Bins
- Commingled recycling: 68 x 240 litre Mobile Garbage Bins

In addition, there is a 9.0 m3 skip bin for larger maintenance and other wastes.

Waste collection is proposed via gate 4 and it to be undertaken prior to 7pm on collection days. All waste and recycling bins are to be transported from their locations within the campus to the Gate 4 car park. Waste management storage within the STEAM building is provided at the lower ground floor.

3.9. TREE REMOVAL

An Arboricultural Impact Statement accompanies this EIS at **Appendix U**. A total of 44 trees were assessed using a visual tree assessment criteria and notes. Each tree has been allocated a retention value based on the tree's useful life expectancy and landscape significance with consideration to its health, structure, and site suitability. The report recommends the removal of 34 trees and the retention of 10 trees. The Landscape Report at **Appendix F** provides a summary of possible plant species to be further development at the detailed design.

3.10. SITE SERVICES

Consent is sought to connect the proposed new buildings to essential services infrastructure. JHA Engineers have prepared the following reports:

- Electrical Services and Lighting Strategy Report (**Appendix AA**)
- Hydraulic Services Report (**Appendix FF**)

Hydraulic Services

- Sewer drainage is proposed to be connected to an existing Sydney Water sewer main on the park side of Baronga Avenue. A 150mm sewer main extension can be provided from the Sydney water sew main and extended to provide a new sewer connection point.
- Potable water supply can be readily be connected by a 150mm sewer main extension to a Sydney Water main at the western portion of York Road. This will also provide water for fire hydrants and fire sprinklers.
- Natural gas can be connected to the 160mm 210Pa PE gas main along York Road.
- Rainwater collection is proposed via downpipes from the roof areas that are discharged into a 100 kilolitre rainwater harvesting tank. This water will be used for landscape irrigation services.

Electrical Services

- The school has a dedicated chamber substation adjacent to the existing basketball court which is sufficient to supply the proposed new buildings.
- Ausgrid's standards specify that a right of way easement is required for access to the chamber substation. It is proposed that this easement is relocated from Baronga Avenue to ensure that Ausgrid continue to have right of way to access the substation if required.

3.11. STORMWATER MANAGEMENT

A stormwater management report accompanies this EIS at **Appendix R** and detailed civil drawings are provided at **Appendix R**. The proposal will not result in any increase in impervious area and therefore is unlikely to facilitate any increase in stormwater flows.

Notwithstanding this, the proposal has incorporated an OSD tank in accordance with Council's specifications. The stormwater drainage system has been designed to withstand 5% AEP storm and overland flow paths will be checked for 1% AEP storm.

The stormwater drainage system will comprise of a number of surface inlet pits and surface channels to collect surface runoff from the site before connecting via an in-ground pipe network to the Council stormwater drainage system in Baronga Avenue. Allowances for downpipe connections will also be made. For details of the building's roof drainage design, refer to the hydraulic drawings.

The proposal will incorporate stormwater quality measures to ensure that potential pollutants are suitably treated.

3.12. SCHOOL SIGNAGE

A main building wall sign is proposed to be located at the new masonry wall fronting Baronga Avenue. The signage will include the school logo and align with the colour palate of the proposed new STEAM building comprising of warm bronze hue tones (see **Figure 21**). The sign will be metal and will be back lit to provide a subtle glow during evening periods.

Figure 21 – Proposed signage

Source: FJMT

3.13. CONSTRUCTION AND DEMOLITION STAGING

The following key stages of construction and demolition are summarised as follows:

Table 10 – Construction and Demolition Works Staging

Building Phase	Stage	Works Summary	Timeline
1	1	Construction of the vehicular turning circle via Gate 4, Ausgrid access ramp, amphitheatre infill and car park construction.	20 Months
	2	Demolition of buildings A and B, tree removal and construction of Phase 1a building including bulk excavation of the basement level and temporary sports court.	
	3	Construction of Phase 1b building.	
	4	Removal of all demountable buildings – uses decanted into the new Phase 1 building.	12 Months
	5	Demolition of buildings C, D, E, and J.	
	6	Landscaping works in the centre of the site.	
2	7	Construction of the Phase 2 building	Subject to future approval
	8	Demolition of building z and completion	

3.14. CONSTRUCTION MANAGEMENT

A number of reports have been prepared which detail the proposed construction management of the new School site. These include:

- A Preliminary Construction Management Plan (CMP) prepared by Aver and contained at **Appendix W**; and
- A preliminary Construction Traffic Management Plan (CTMP) prepared by TTPP and contained at **Appendix EE**.

The Preliminary Construction Management Plan (CMP) provides a high-level overview of the overall construction program, and details stakeholder management, site security, establishment and storage of dangerous goods as well as access to the site during the construction stage. The CMP also provides a Neighbourhood Communications Plan, erosion and sediment, dust, odour control, noise and vibration plans to mitigate any potential impacts to surrounding development during construction of the school which are discussed in further detail in Section 10 of this EIS.

The Construction Traffic Management Plan (CTMP) provides a high-level overview of the construction traffic and pedestrian impacts and management works associated with the development. The plan identifies the impacts associated with construction on the local traffic network and outlines potential solutions or mitigating methods which are discussed in further detail in Section 10 of this EIS.

Construction Work Hours

The proposed construction and demolition works will be undertaken during the following hours:

- Monday to Friday – 7am to 6pm
- Saturdays – 8am to 5pm
- Sundays and Public Holidays – No works

Construction Traffic

Access to the site for construction vehicles is proposed to the be via Gate 4 which is accessed off York Road at the site's southern frontage. Gate 3A which is accessed from Baronga Avenue is proposed to be used during initial tasks only. The access and exit route for construction vehicles is likely to be from Oxford Street to the North and then south down York Road to Gate 4.

4. STATUTORY PLANNING CONTEXT

4.1. OVERVIEW

In accordance with the SEARs, the following statutory planning policies have been considered in the assessment of the proposal:

- *Environmental Planning and Assessment Act 1979 (EP&A Act);*
- *Environmental Planning and Assessment Regulation 2000*
- *Biodiversity Conservation Act 2016;*
- *State Environmental Planning Policy (State and Regional Development) 2011;*
- *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017;*
- *State Environmental Planning Policy (Infrastructure 2007)*
- *State Environmental Planning Policy No. 64 – Advertising and Signage*
- *State Environmental Planning Policy No 55—Remediation of Land;*
- *Draft State Environmental Planning Policy (Remediation of Land)*
- *Draft State Environmental Planning Policy (Environment)*
- *Waverley Local Environmental Plan 2012 (the LEP); and*
- *Waverley Development Control Plan 2012 (the DCP).*

Compliance with the relevant controls contained within the above statutory planning policies is discussed below.

4.2. ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation) provide the framework for the statutory environmental planning in NSW. They include provisions relating to approval of development to ensure that proposal which have the potential to impact the environment are subject to detailed assessment.

4.2.1. Objects of the EP&A Act

The proposed development demonstrates consistency with the objects of the EP&A Act as discussed in the below table. Site investigations have determined that the proposed development will not result in any significant negative impacts that cannot be adequately mitigated or managed.

Table 11 – Objectives of the EP&A Act

Object	Consideration
(a) to promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources,	The proposed development conserves and manages resources by providing for an efficient and effective school redevelopment that will promote the social and economic welfare of the community
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The development incorporates a number of ESD measures outlined in the accompanying ESD report at **Appendix L**.

Object	Consideration
(c) to promote the orderly and economic use and development of land,	The development represents efficient economic use of the land cognisant with its zoning and existing use for the purposes of an educational establishment.
(d) to promote the delivery and maintenance of affordable housing,	This objective is not applicable to the proposal.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	A BDAR waiver request was submitted to DPIE on 12 August 2019 (see **Appendix S**). EES Group are still yet to provide a determination on this assessment. Notwithstanding this, the proposal is unlikely to have a significant impact on the eight biodiversity values (as defined in Section 1.5 of the Biodiversity Conservation Act 2016 and Clause 1.4 of the Biodiversity Conservation Regulation 2017).
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The cultural heritage of the site has been considered in the accompanying Heritage Impact Statement and ACHAR (at **Appendix M** and **Appendix N** respectively).
(g) to promote good design and amenity of the built environment,	Good design and amenity has been achieved through implementation of design excellence principles as detailed in the accompanying report at **Appendix E**.
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	The proposal has been designed so as to ensure compliance with relevant BCA and DDA standards for building construction.
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	Consultation has occurred with various state government agencies and Waverley Council throughout the preparation of the SSDA, as detailed at **Section 6** of this EIS.
(j) to provide increased opportunity for community participation in environmental planning and assessment.	The Applicant has engaged with relevant government agencies in the preparation of this EIS. A consultation outcomes report accompanies this EIS at **Appendix Y.**

4.2.2. Concept Development Application

A ‘concept development application’ is an application lodged pursuant to Section 4.22 of the EP&A Act, that sets out a concept proposal for the future development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications. In the case of a staged development, the application may set out detailed proposals for the first stage of development.

This SSDA is a ‘concept development application’ and also sets out the details of the first stage of building works comprising demolition, construction of a new STEAM and ILC building, internal drop off and pick up area and staff car parking, sports court complex, open space and landscape works. A future development application will be submitted which will seek consent for the construction of the Stage 2 building.

4.3. ENVIRONMENTAL PLANNING AND ASSESSMENT REGULATION 2000

This EIS has been prepared in accordance with Clauses 6 and 7 of the EP&A Regulation.

4.4. BIODIVERSITY CONSERVATION ACT 2016

The *Biodiversity Conservation Act 2016* (BC Act) is a regulatory framework for assessing and offsetting the biodiversity impacts of proposals and activities. The BC Act contains provisions relating to flora and fauna protection, threatened species and ecological communities listing and assessment, a single BAM, and a Biodiversity Offsets Scheme (BOS) for the calculation and retirement of biodiversity credits and biodiversity assessment and planning approvals.

A BDAR waiver request was submitted to DPIE on 12 August 2019 (see **Appendix S**). Cumberland Ecology have undertaken an assessment of the proposal against the relevant provisions of the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017 and are of the opinion that the proposal is unlikely to have a significant impact on the eight biodiversity values (as defined in Section 1.5 of the Biodiversity Conservation Act 2016 and Clause 1.4 of the Biodiversity Conservation Regulation 2017).

EES group are still yet to determine this request. When a determination is made, the relevant information will be provided to accompany this EIS.

4.5. STATE ENVIRONMENTAL PLANNING POLICY (STATE AND REGIONAL DEVELOPMENT) 2011

A quantity surveyors report is attached to this EIS at **Appendix B.** The report confirms that that project has an estimated capital investment value of:

- Stage 1 - $62,722,058
- Stage 2 - $18,990,516
- Total - $81,712,574

State Environmental Planning Policy (State and Regional Development) 2011 (SEPP SRD) identifies development types that are of state significance, or infrastructure types that are of state or critical significance. Pursuant to Schedule 1 of the SEPP SRD:

> *"Development that has a capital investment value of more than $20 million for the purpose of alterations or additions to an existing school" is considered SSD.*

The proposal is defined as 'alterations and additions to an existing school' and has a project value more than $20 million. Therefore, the proposal is considered SSD.

4.6. STATE ENVIRONMENTAL PLANNING POLICY NO 64 – ADVERTISING AND SIGNAGE

State Environmental Planning Policy No. 64 – Advertising and Signage (SEPP 64) aims to ensure that advertising and signage is compatible with the desired amenity and visual character of an area and provides effective communication in suitable locations and is of high-quality design and finish. It does not regulate the content of signs and advertisements.

Clause 8 and Clause 13 of SEPP 64 prevents development consent from being granted to signage unless the consent authority is satisfied that it is consistent with the objectives of the SEPP and has satisfied the assessment criteria specified in Schedule 1.

An assessment of the proposed main school signage against the SEPP 64 assessment criteria has been undertaken and summarised in **Table 9** below. This assessment demonstrates that the proposed signage satisfies the relevant provisions of SEPP 64, including achieving the aims and objectives of the policy.

Table 12 – SEPP 64 Compliance Table

Assessment Criteria	Comment	Compliance
Clause 3 – Aims and Objectives		
(a) to ensure that signage (including advertising): is compatible with the desired amenity and visual character of an area, and provides effective communication in suitable locations, and is of high-quality design and finish, and	The scale of the signage is consistent with that of typical signs for schools. The location of the sign on at the new masonry wall fronting Baronga Avenue ensures that the sign will be clearly visible from the new 'front door' pedestrian entrance area of the school, allowing for effective legibility of the site. The sign incorporates quality materials and finishes and provides a coherent and integrated colour theme consistent with the school redevelopment.	Yes
(b) to regulate signage (but not content) under Part 4 of the Act, and	Noted.	Yes
(c) to provide time-limited consents for the display of certain advertisements, and	The sign is proposed for the life of the development.	Yes
(d) to regulate the display of advertisements in transport corridors, and	The sign will be located at the new main school entrance at Baronga Avenue.	Yes
(e) to ensure that public benefits may be derived from advertising in and adjacent to transport corridors.	The proposed signage will allow the public to easily identify the school when travelling along Baronga Avenue.	Yes
Schedule 1- Assessment Criteria		
<u>Character of the Area</u> Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located? Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	The proposed sign is compatible with the existing and future character of the area in that its scale and location of the structure is considered appropriate for a school.	Yes
<u>Special Areas</u> Does the proposal detract from the amenity or visual quality of any environmentally sensitive areas, heritage areas, natural or other conservation areas, open space areas,	The colour and materiality of the proposed signage has been selected so as to not detract from the character of the landscaped conservation area in which it is located within. The sign will also not detract from the amenity or visual quality of nearby residential land uses. The sign is of a scale and appearance that is compatible with the future built form of the school.	Yes

Assessment Criteria	Comment	Compliance
waterways, rural landscapes or residential areas?		
Views and Vistas Does the proposal obscure or compromise important views? Does the proposal dominate the skyline and reduce the quality of vistas? Does the proposal respect the viewing rights of other advertisers?	The sign will not obscure any views and will sit flush against the new masonry wall. The sign is also not of a bulk or scale that would impede any view from the street. The signage will not adversely impact on views or vistas from other properties, nor will it impede the visibility of any other existing signage.	Yes
Streetscape, setting and landscape Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape? Does the proposal contribute to the visual interest of the streetscape, setting or landscape? Does the proposal reduce clutter by rationalising and simplifying existing advertising? Does the proposal screen unsightliness? Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The proposed sign is compatible with the scale of surrounding streetscape, setting and character of the nearby Queens Park Suburb. The sign will therefore complement the existing signage in the wider precinct, with no adverse impacts to the streetscape. The proposal does not screen unsightliness and will not contribute to visual clutter as the signage panel is unified. The sign will not protrude above any structures or tree canopies.	Yes
Site and building Is the proposal compatible with the scale, proportion and other characteristics of the site or building, or both, on which the proposed signage is to be located? Does the proposal respect important features of the site or building, or both? Does the proposal show innovation and imagination in its relationship to the site or building, or both?	The sign is appropriately sized and sited with consideration to the existing and proposed built form of the school and surrounds. The proposed sign will not protrude above the building line and will utilise modern technology and be built with contemporary materials that are consistent with the current and future context of the site.	Yes
Associated devices and logos with advertisements and advertising structures	All required safety devices will be concealed within the signage structure.	Yes

Assessment Criteria	Comment	Compliance
Have any safety devices, platforms, lighting devices or logos been designed as an integral part of the signage or structure on which it is to be displayed?		
Illumination Would illumination result in unacceptable glare? Would illumination affect safety for pedestrians, vehicles or aircraft? Would illumination detract from the amenity of any residence or other form of accommodation? Can the intensity of the illumination be adjusted, if necessary? Is the illumination subject to a curfew?	The proposed sign will not be back lit and will therefore comply with the relevant codes to ensure there is no interference with driver or pedestrian sight lines.	Yes
Safety Would the proposal reduce the safety for any public road? Would the proposal reduce the safety for pedestrians or bicyclists? Would the proposal reduce the safety for pedestrians, particularly children, by obscuring sightlines from public areas?	The proposed sign will not interfere with pedestrian or vehicular sightlines as it will comply with all relevant Australian Standards and codes. The sign will not distract motorists as will be located well away from the street verge and won't resemble a traffic sign or contain a facsimile of a traffic sign.	Yes

4.7. STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) provides the legislative planning framework for infrastructure and the provision of services across NSW. Since gazettal of State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 on 1 September 2017, each of the provisions that related to educational establishments within ISEPP have been repealed. Accordingly, the ISEPP no longer applies to the proposal.

4.8. STATE ENVIRONMENTAL PLANNING POLICY (EDUCATIONAL ESTABLISHMENTS AND CHILDCARE FACILITIES (2017)

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP) provides the legislative planning framework for the effective delivery of educational establishments and early education and care facilities across the State.

4.8.1. Clause 23 Centre-based child care facility – matters for consideration by consent authorities

Pursuant to the Education SEPP, a consent authority must take into consideration the Child Care Planning Guideline (the Guideline) when assessing an application for a centre based child care facility. The Guideline provides a consistent, state-wide planning and design framework for preparing and considering applications child care facilities. As determined under the Education SEPP, the Guideline will take precedence over a Development Control Plan where there are inconsistencies in relation to controls for child care facilities (with the exception of building height, rear and side setbacks and car parking rates).

Part 3 of the Guideline includes matters which must be considered by the consent authority when assessing an application for a child care facility. As consent is only sought a three dimensional building envelope will comprise an ELC only, assessment of the proposal under Part 3 provided in **Table 13** below has only considered relevant provisions.

Table 13 – Part 3 – Child Care Planning Guideline

Matter for Consideration	Proposed	Compliance
3.1 Site selection and location		
For proposed developments in or adjacent to a residential zone, consider: • the acoustic and privacy impacts of the proposed development on the residential properties • the setbacks and siting of buildings within the residential context • traffic and parking impacts of the proposal on residential amenity.	The proposal has been sited in an appropriate location within the south western portion of the site away residential development to the north of the site.	Yes
When selecting a site, ensure that: • the location and surrounding uses are compatible with the proposed development or use • the site is environmentally safe including risks such as flooding, land slip, bushfires, coastal hazards • there are no potential environmental contaminants on the land, in the building or the general proximity, and whether hazardous materials remediation is needed	The proposed ELC building envelope is appropriately located within an existing school and will replace an existing ELC at the same location. Specialist reporting has confirmed that there are no environmental contaminants or safety risks that would preclude the development.	Yes
The characteristics of the site are suitable for the scale and type of development proposed having regard to: • size of street frontage, lot configuration, dimensions and overall size • number of shared boundaries with residential properties • the development will not have adverse environmental impacts on the surrounding area, particularly in sensitive environmental or cultural areas	The building envelope has been sited to avoid impacts to adjoining uses. There envelope has no adverse environmental impacts on surrounding areas.	Yes

Matter for Consideration	Proposed	Compliance
A child care facility should be located: • near compatible social uses such as schools and other educational establishments, parks and other public open space, community facilities, places of public worship • near or within employment areas, town centres, business centres, shops • with access to public transport including rail, buses, ferries • in areas with pedestrian connectivity to the local community, businesses, shops, services and the like	The proposed ELC building envelope is appropriately located within an existing school campus.	Yes
A child care facility should be located to avoid risks to children, staff or visitors and adverse environmental conditions arising from: • proximity to: -heavy or hazardous industry, waste transfer depots or landfill sites - LPG tanks or service stations - water cooling and water warming systems - odour (and other air pollutant) generating uses and sources or sites which, due to prevailing land use zoning, may in future accommodate noise or odour generating uses	The ELC is not located within proximity to any of these adverse environmental conditions.	Yes
3.3 Building orientation, envelope and design		
The following matters may be considered to minimise the impacts of the proposal on local character: • building height should be consistent with other buildings in the locality • building height should respond to the scale and character of the street • setbacks should allow for adequate privacy for neighbours and children at the proposed child care facility • setbacks should provide adequate access for building maintenance • setbacks to the street should be consistent with the existing character	The proposed ELC is sited within an existing school campus that is located within an isolated block of land. The building envelope appropriately responds to the scale of other buildings within the campus.	Yes
3.7 Hours of operation		

Matter for Consideration	Proposed	Compliance
Hours of operation within areas where the predominant land use is residential should be confined to the core hours of 7.00am to 7.00pm weekdays. The hours of operation of the proposed child care facility may be extended if it adjoins or is adjacent to non-residential land uses.	Compliant hours proposed.	Yes
3.8 Traffic, parking and pedestrian circulation		
Off street car parking should be provided at the rates for child care facilities specified in a Development Control Plan that applies to the land.	No rates are provided.	N/A
Where a Development Control Plan does not specify car parking rates, off street car parking should be provided at the following rates: Within 400 metres of a metropolitan train station: • 1 space per 10 children • 1 space per 2 staff. Staff parking may be stack or tandem parking with no more than 2 spaces in each tandem space. In other areas: • 1 space per 4 children. A reduction in car parking rates may be considered in certain circumstances as described in guideline.	Compliant car parking proposed.	Yes

4.8.2. Clause 35 Schools – development permitted with consent

The Education SEPP establishes consistent State-wide assessment requirements and controls, that override development standards contained within other environmental planning instruments. Part 4 of the Education SEPP identifies school specific development controls, with clause 35 Schools—development permitted with consent containing the relevant controls. The proposal has been assessed against the relevant provisions of Part 4 within the following table.

Table 14 – ESEPP Compliance Assessment

Clause	Proposal	Compliance
Clause 35 Schools – development permitted with consent		
(1) Development for the purpose of a school may be carried out by any person with development consent on land in a prescribed zone.	The proposed development is in Zone SP2 Infrastructure which is a prescribed zone for the purposes of the Education SEPP.	Yes
(2) Development for a purpose specified in clause 39 (1) or 40 (2) (e) may be carried out by any person with	Development consent is sought for the proposed works.	N/A

Clause	Proposal	Compliance
development consent on land within the boundaries of an existing school.		
(3) Development for the purpose of a school may be carried out by any person with development consent on land that is not in a prescribed zone if it is carried out on land within the boundaries of an existing school.	The proposed development is within a prescribed zone for the purposes of the Education SEPP.	N/A
(5) A school (including any part of its site and any of its facilities) may be used, with development consent, for the physical, social, cultural or intellectual development or welfare of the community, whether or not it is a commercial use of the establishment.	Continued shared use of the Moriah College facilities is proposed, in accordance with the approved Plan of Management.	Yes
(6) Before determining a development application for development of a kind referred to in subclause (1), (3) or (5), the consent authority must take into consideration: (a) the design quality of the development when evaluated in accordance with the design quality principles set out in Schedule 4, and (b) whether the development enables the use of school facilities (including recreational facilities) to be shared with the community.	This EIS addresses the design quality of the development. A formal response to the Schedule 4 School Design Principles is included in the Design Excellence Report prepared by FJMT (refer to **Appendix F**).	Yes
(7) Subject to subclause (8), the requirement in subclause (6) (a) applies to the exclusion of any provision in another environmental planning instrument that requires, or that relates to a requirement for, excellence (or like standard) in design as a prerequisite to the granting of development consent for development of that kind.	Subject to this subclause, design excellence provisions listed in the LEP do not apply.	Yes
(8) A provision in another environmental planning instrument that requires a competitive design process to be held as a prerequisite to the granting of development consent does not apply to development to which subclause (6) (a) applies that has a capital investment value of less than $50 million.	A competitive design process is not required in any relevant planning instruments.	Yes
(9) A provision of a development control plan that specifies a requirement, standard or control in relation to development of a kind referred to in subclause (1), (2), (3) or (5) is of no effect, regardless of when the development control plan was made.	Noted	Yes
(10) Development for the purpose of a centre-based child care facility may be carried out by any person with development consent on land within the boundaries of an existing school.	Consent is sought for a building envelope which will comprise an ELC. Consent for the detailed design of the ELC will be sought in a following stage.	Yes

Clause	Proposal	Compliance
(11) Development for the purpose of residential accommodation for students that is associated with a school may be carried out by any person with development consent on land within the boundaries of an existing school.	Consent is not sought for student accommodation.	N/A

4.8.3. Clause 42 – Development Standards

Clause 42 of the ESEPP allows the proposal to contravene a development standard imposed by the ESEPP or any other environmental planning instrument under which the consent is granted. The clause states the following:

> ***'Clause 42 State significant development for the purpose of schools—application of development standards in environmental planning instruments***
>
> *Development consent may be granted for development for the purpose of a school that is State significant development even though the development would contravene a development standard imposed by this or any other environmental planning instrument under which the consent is granted.'*

The proposed STEAM building exceeds the Height of Building development standard listed in the LEP by 12.2m. However, as per Clause 42 of the ESEPP, development consent may still be granted without the need for a formal Clause 4.6 variation to the development standard.

Notwithstanding this, the provisions of Clause 4.6 are considered at **Section 4.12.3** of this EIS for completeness.

4.8.4. Schedule 4 – Design Quality Principles

Clause 35(6) requires the consent authority to consider the design quality principles set out in Schedule 4 of the Education SEPP prior to determination. The proposal has been designed having regard to the design quality principles and responds to each of them in the following way:

- Principle 1: Context, built form and landscape

The proposal has sought to respond to the existing context of the campus and surrounding development. The proposal also provides a landscape concept plan which includes landscaped gardens, outdoor play areas and sporting facilities that will complement the existing character and future character of the campus and the Queens Park suburb.

- Principle 2: Sustainable, efficient and durable

The proposal will adopt a range of ESD initiatives, and an ESD Report is attached at Appendix L. The proposal will also provide positive social and economic benefits for the local community by ensuring that teaching facilities are meeting contemporary educational needs.

- Principle 3: Accessible and inclusive

The proposal is capable of complying with relevant provisions for accessibility, an Accessibility Report is attached at Appendix X.

- Principle 4: Health and safety

CPTED measures have been incorporated into the design and management of the site to ensure a high level of safety and security for students and staff, such as appropriate fencing, access control measures, adequate lighting and wayfinding signage as well as the use of resistant and durable building materials. A range of open spaces and sports facilities are proposed for students to encourage active recreation.

- Principle 5: Amenity

The proposal will provide high quality facilities, spaces and equipment for use by students and staff. These areas will provide students with an enhanced learning environment.

- Principle 6: Whole of life, flexible and adaptive

The proposal involves the construction of new school buildings, these will be designed to ensure flexibility and longevity.

- Principle 7: Aesthetics

The proposal will have high quality external finishes, which will be aesthetically pleasing. The proposal is an appropriate scale and form for the residential context.

A more detailed assessment of the proposal against the design quality principles is undertaken within the Urban Design Report prepared by FJMT at **Appendix E**.

4.8.5. Clause 57 – Traffic Generating Development

Clause 57 stipulates that development for the purposes of an 'educational establishment' that will accommodate 50 or more students and will involve an enlargement or extension of an existing premises on a site that has direct vehicular or pedestrian access to any road requires referral to the RMS. A referral to the RMS will be made during the assessment of the SSDA in accordance with Clause 57 of the Education SEPP.

4.9. STATE ENVIRONMENTAL PLANNING POLICY NO. 55 – REMEDIATION OF LAND

State Environmental Planning Policy No.55 – Remediation of Land (SEPP 55) provides a state-wide planning approach for the remediation of land and aims to promote the remediation of contaminated land to reduce the risk of harm to human health or the environment. Clause 7(1) requires the consent authority to consider whether land is contaminated prior to the issuance of consent to a development application.

A Phase 1 Preliminary Site Investigation has been undertaken to accompany this EIS by JBS&G at **Appendix O** and is summarised at **Section 7.13**.

Intrusive investigations were undertaken which identified that the site is underlain by fill material consisting of silty sands and sandy silts from depths of 0.3m to 1.5m. The site has historically been used as a hospital, and later for education purposes. It appears to have undergone cut and fill activities prior to the current facility being constructed.

Some localised elevated heavy metal contaminants were recorded, however, the levels recorded were not considered to affect site suitability. A detailed soil assessment is recommended to be undertaken at the site to confirm the characterisation of potential contamination and to support management of materials during redevelopment. This can be undertaken following demolition of the existing site buildings and thus can be included as a condition of consent.

Based on their preliminary site investigations JBS&G consider that the site is suitable for its continued use as a school. Accordingly, the proposal is considered to comply with provisions of SEPP 55 and is suitable its intended use.

4.10. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (ENVIRONMENT)

The *Draft State Environmental Planning Policy (Environment) 2017* (Environment SEPP) aims to consolidate seven environmental existing SEPPs to modernise provisions to remove duplication, respond to new evidence, changed circumstances and better align with community expectations.

Public exhibition of the Draft Environment SEPP was completed in January 2018. The Draft Environment SEPP will deliver a policy instrument that contains a single set of planning provisions for catchments, waterways, bushland and protected areas.

The land the site is located on is currently not subject to any of the SEPPs to be consolidated in the Environment SEPP, nor is it identified as being attributed to any catchments, waterways, bushland or protected areas.

4.11. DRAFT STATE ENVIRONMENTAL PLANNING POLICY (REMEDIATION OF LAND)

The *Draft State Environmental Planning Policy (Remediation of Land)* is the proposed new land remediation SEPP set to replace SEPP 55. Public exhibition of the 'explanation of intended effect' for the Draft Remediation SEPP and draft planning guidelines was completed in April 2018.

The Draft Remediation SEPP will retain the objectives of SEPP 55 and reinforce the successful aspects of the framework. In terms of relevant changes applicable to development applications, clause 7 of SEPP 55 is proposed to be incorporated into the Draft Remediation SEPP. In addition, the list of potentially contaminating activities and the purpose of a 'preliminary site investigation' (PSI) and 'detailed site investigation' (DSI) will be integrated into clause 7 of the Draft Remediation SEPP

Notwithstanding the above draft amendments SEPP 55, the contamination assessments carried out and summarised in **Section 4.9** of this EIS remain valid and consistent with the objectives of the proposed amendments.

4.12. WAVERLY LOCAL ENVIRONMENTAL PLAN 2012

The *Waverly Local Environmental Plan 2012* (the LEP) is the principal environmental planning instrument governing development at the subject site. An assessment against the relevant provisions of the LEP has been undertaken in the subsections below.

4.12.1. Zoning and Permissibility

Pursuant to the LEP the site is zoned as 'SP2 Infrastructure – Educational Establishment' (see **Figure 22**). Educational establishments are permissible with consent in this zone. An educational establishment is defined within the LEP as follows:

> *"means a building or place used for education (including teaching), being:*
>
> *(a) a school, or*
>
> *(b) a tertiary institution, including a university or a TAFE establishment, that provides formal education and is constituted by or under an Act."*

The proposal is therefore permissible with consent.

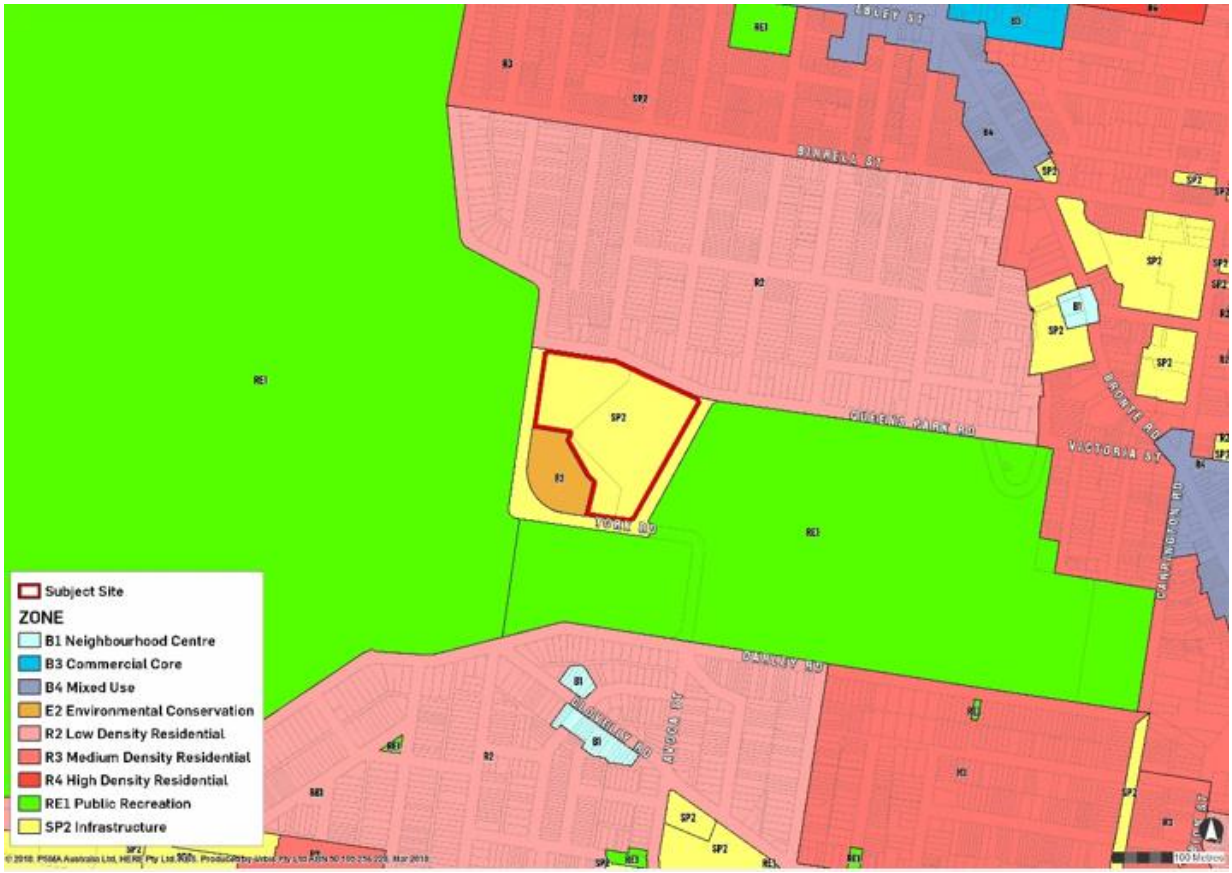
4.12.2. Zone Objectives

The SP2 Infrastructure Zone objectives are outlined below:

> *"To provide for infrastructure and related uses.*
>
> *To prevent development that is not compatible with or that may detract from the provision of infrastructure."*

The proposal is consistent with the above objectives in that it continues to provide educational infrastructure to the benefit of current and future students.

Figure 22 – Extract from the LEP Zoning Map

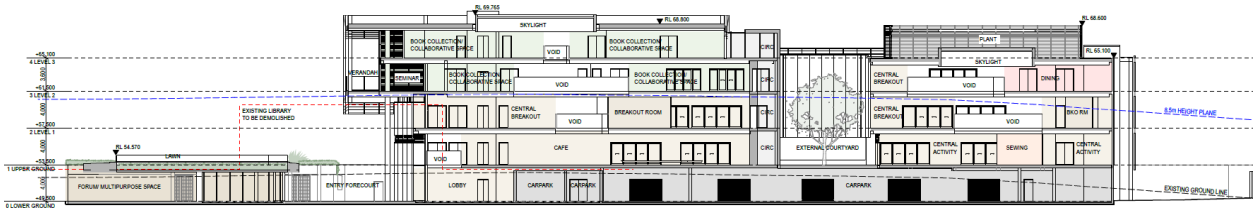


Source: the LEP

4.12.3. Height of Building

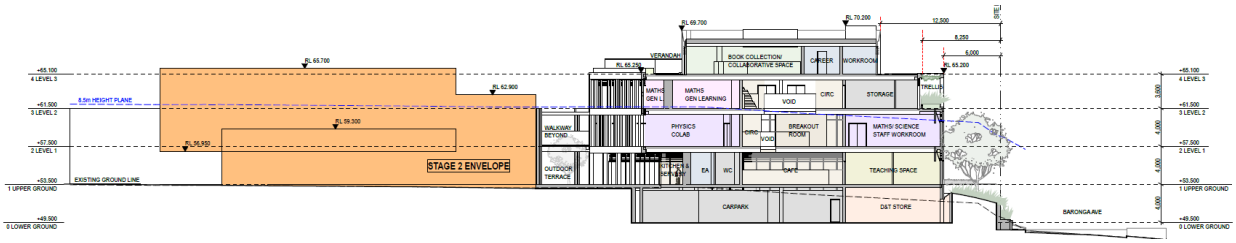
The site is subject to a maximum building height control of 8.5m. The proposal has a maximum building height of 20.7m measured from the lowest point of the existing ground level to the highest.

Figure 23 – Building Height non-compliance – North South section



Source: FJMT

Figure 24 – Building Height non-compliance – East West section



Source: FJMT

A Clause 4.6 variation request would be required to vary the height of building standard. However, Clause 42 of the ESEPP states that:

> *"Development consent may be granted for development for the purpose of a school that is State significant development even though the development would contravene a development standard imposed by this or any other environmental planning instrument under which the consent is granted."*

As such a Clause 4.6 variation is not required. Notwithstanding, a justification for the exceedance of the height of building development standard is provided below.

Consistency with the Objectives of Clause 4.3 Height of Buildings

The objectives of the Height of Buildings development standard are:

> *"(a) to establish limits on the overall height of development to preserve the environmental amenity of neighbouring properties and public spaces and, if appropriate, the sharing of views,*
>
> *(b) to increase development capacity within the Bondi Junction Centre to accommodate future retail and commercial floor space growth,*
>
> *(c) to accommodate taller buildings on land in Zone B3 Commercial Core of the Bondi Junction Centre and provide an appropriate transition in building heights surrounding that land,*
>
> *(d) to ensure that buildings are compatible with the height, bulk and scale of the desired future character of the locality and positively complement and contribute to the physical definition of the street network and public space."*

The proposal is consistent with the above **objectives** in that:

- There is an absence of tangible impacts to the amenity of adjoining residential uses in the immediate locality as a result of the height non-compliance in terms of overshadowing, overlooking, or privacy issues;
- The proposal is accompanied by a visual impact assessment at **Appendix I** which demonstrates that the proposal will not have an unacceptable impact on views from the locality and specifically from Queens Park and Centennial Park; and
- The proposal will facilitate a school redevelopment that is of an appropriate scale in an accessible location.

Strict compliance with the control is **unreasonable and unnecessary** in the circumstances of the case for the following reasons:

- The proposed built form is appropriately set back from nearby residential uses and major arterial roads to maintain the environmental amenity of future students of the senior school campus and residents in the surrounding locality;
- The proposal is a critical social infrastructure contribution for an area with projected population growth;

- The proposed buildings will be visible from Queens Park and from surrounding streets but will be either framed or significantly screened by existing vegetation. In this context, it is considered that proposed buildings will contributary element to local visual quality in these views.
- The proposal has been shown will be only visible from very isolated locations within Centennial Park. Where it will be potentially visible it would form a very small component of broad and expansive views and is impact on visual quality would be negligible.
- The height non-compliance allows for greater provision of high-quality open space within the remainder of the site to the benefit of students. A compliant scheme would result in a larger footprint and a reduction in play space meaning the proposal would not being capable of meeting rates of open space per student;
- The development is fully compliant with relevant Australian Standards including the BCA, DDA, which includes the need to provide appropriate floor to ceiling heights to facilitate natural ventilation and airflow consistent with ESD principles; and
- The site can accommodate the proposed density as it will have negligible traffic and parking impacts.

There are **sufficient environmental planning grounds** to justify contravening the development standards in that:

- The proposal is a logical and co-ordinated redevelopment of the existing campus that comprising a number of dilapidated school buildings that are coming to the end of life;
- The architectural design provides a good quality-built form outcome for the existing school campus site; and
- The proposal will result in improvements to the physical appearance of the site through a well-designed building that is modern and responsive to site context, constraints, and its intended function;

The proposed building height exceedance will not create any material impacts to the privacy or view amenity of neighbouring properties or from the public domain. The variation is therefore considered to be acceptable.

4.12.4. Floor Space Ratio

Pursuant to Clause 4.4 of the LEP the site is subject to a maximum FSR control of 0.5:1. As demonstrated in the following table, the proposal complied with the maximum FSR control.

Table 15 – GFA and FSR Schedule

Stage	Proposed GFA	Proposed FSR	Change
Existing	14,297.15m^2	0.32:1	NA
Stage 1A	14,947.84m^2	0.33:1	+650.69m^2
Stage 1B	17,392.14m^2	0.39:1	+3,094.99m^2
Stage 2	18,995.74m^2	0.42:1	+4,698.59m^2

4.12.5. Heritage Conservation

The subject site is within two landscape conservation areas being: Conservation Area – Landscape: Eastern Suburbs Banksia Scrub (C57) and the Conservation Area – Landscape: Remnant Bushland (C40). A heritage impact statement accompanies this EIS at Appendix M. This assessment confirm that the proposal will have no impact on the heritage values of the landscaped conservation areas.

4.13. WAVERLY DEVELOPMENT CONTROL PLAN 2012

The Waverly Development Control Plan 2012 (the DCP) provides guidelines to manage the design and assessment of development applications for land covered by the LEP. However, under Clause 11 of the SRD SEPP, the application of Development Control Plans is excluded when assessing SSD projects. Notwithstanding this, the proposal has been assessed against the key relevant controls of the DCP in the table below.

Table 16 – Waverly DCP Compliance Assessment

Provision	Control	Proposal	Compliance
Part B – General Provisions			
B1 Waste	The Site Waste & Recycling Management Plan (SWRMP) is to be submitted in accordance with the Waverley Development Application Guide.	Waste management plan accompanies this EIS at **Appendix V**.	Yes.
B2 – Ecologically Sustainable Development	Development is to be designed and constructed to reduce the need for active heating and cooling systems by incorporating passive design measures through site design and analysis. Development is to be orientated to achieve optimum solar access and natural ventilation. Green Star certification is encouraged for all developments with a cost of works of $3 million or greater.	An ESD Report accompanies this EIS at Appendix L. The report confirms that the proposal includes considered materiality and waste reduction measures, futureproofing and use of low carbon materials, energy and water efficiency, and technology such as renewable energy, to demonstrate alignment to industry best practice frameworks.	Yes
B3 – Landscaping and Biodiversity	A Landscape Plan is required to be submitted in accordance with the Waverley Development Application Guide	Landscape report is attached at Appendix F.	Yes
B5 – Tree Preservation	Where a development has any potential impact on existing trees an arborist report must be submitted.	Aboricultural impact assessment attached at Appendix U.	Yes
B6 - Stormwater	A stormwater management plan is required to be submitted with all development applications (except minor alterations, retrofits and the like). WSUD measures are to be employed to prevent contamination of stormwater.	An stormwater management plan accompanies the proposal at Appendix R.	Yes

Provision	Control	Proposal	Compliance
B7 – Accessibility and Adaptability	Access is to meet the requirements of the DDA 1992, the relevant Australian Standards and the BCA.	The DDA report attached at Appendix X confirms that the proposal is capable of compliance with relevant standards for access.	Yes
B8 – Transport	No parking rate is provided for educational establishments. Educational establishments: 0.3 bicycle spaces per staff member and 0.3 spaces per student. Childcare: 0.1 bicycle spaces per staff and 0.05 per visitor A Green travel plan is required for all development where 50 or more employees are proposed. A traffic and transport management plan is required to accompany a DA for a childcare centre.	The proposal includes 108 additional bicycle parking spaces which is compliant with the DCP. A Green Travel Plan accompanies the Transport Impact Assessment at Appendix K.	Yes
B9 – Heritage	New works in the vicinity of Landscape Conservation Areas and natural settings are to acknowledge the significant character, detail and context of the setting. Any new works must consider the visual and physical impact upon the setting.	The Heritage Impact Assessment at Appendix M concludes that the proposal will have no impact on both the landscaped conservation areas that it is located within, and any vicinity heritage items.	Yes
B10 – Safety	The preparation of a Crime Prevention Through Environmental Design (CPTED) assessment is to be prepared in accordance with the Waverley Development Application Guide	A CPTED assessment is included within the Urban Design Report at Appendix E.	
B12 – Design Excellence	Development is to achieve a high standard of architectural design, materials and detailing appropriate to the building type and location.	The proposal achieves a high degree of design excellence as demonstrated in the Urban Design Report at Appendix E.	Yes
Part F3 – Childcare centres			
	Development is to comply with the CCPG	Compliance with the CCPG is outlined in Section 4.8.1.	Yes

4.14. SECTION 7.11 CONTRIBUTIONS

The Waverly Council Development Contributions Plan 2006 (Amendment No. 8) applies to the development. The plan authorises Council to grant consent to development within the Waverly LGA subject to a condition requiring the applicant pay a council levy as specified in the contributions plan. The development is subject to a 1% levy on the cost of development.

5. STRATEGIC PLANNING CONTEXT

In accordance with the SEARs, the following strategic planning policies have been considered in the assessment of the proposal.

- *NSW State Priorities*
- *The Greater Sydney Regional Plan, A Metropolis of three cities*
- *Future Transport Strategy 2056*
- *State Infrastructure Strategy 2018 – 2038 Building the Momentum*
- *Sydney's Cycling Future 2013*
- *Sydney's Walking Future 2013*
- *Sydney's Bus Future 2013*
- *Crime Prevention Through Environmental Design (CPTED) Principles*
- *Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017)*
- *Eastern City District Plan*

Consistency with the relevant goals contained to the above strategic policies is discussed below.

Table 17 – Strategic Plans and Policies Consistency

Strategic Plan or Policy	**Comment**
NSW State Priorities	NSW State Priorities is the State Government's plan to guide policy and decision making across the State. The proposed redevelopment at the site is consistent with key objectives contained within the plan, including: • *Greening our city: Increase the tree canopy and green cover across Greater Sydney by planting one million trees by 2022* A comprehensive landscaping strategy is provided as part of the proposal. Proposed landscaping includes planting of native species of trees, shrubs, grasses, and groundcovers have been selected to be included in the plant schedule. • *Bumping up education results for children: Increase the proportion of public school students in the top two NAPLAN bands (or equivalent) for literacy and numeracy by 15 per cent by 2023, including through state-wide roll out of Bump it up.* The proposal will contain high quality facilities, spaces and equipment for use by students and staff. This will provide students with learning difficulties with greater opportunities to learn and improve their numeracy and literacy skills. Overall, it is considered that the proposal is consistent with the goals and objectives set out within the NSW State Priorities.

Strategic Plan or Policy	Comment
The Greater Sydney Regional Plan, A Metropolis of three cities	The Greater Sydney Regional Plan, A Metropolis of Three Cities was released by the NSW Government in March 2018 and includes a range of goals, directions, objectives and actions that aim to support the strategic growth of Sydney over the long term and assist in delivering the vision where most residents will live within 30 minutes of their jobs, education and health facilities, and services. The following key directions contained in the Plan are relevant to the proposal: **'A city supported by infrastructure'** Providing adequate infrastructure to support population growth is essential to creating strong communities. In accordance with the Plan, this SSDA will ensure that Moriah College can continue to deliver high quality education to meet Sydney's growing educational needs. **'A city for people'** A growing Greater Sydney presents an opportunity to build social and cultural networks and to enhance individual and community health outcomes. The changing demographics of neighbourhoods across Greater Sydney will influence local demand for social infrastructure. The proposal will deliver a sustainable, well-designed school redevelopment that promotes the use of public and active transport for staff. It will make a valued contribution to economic growth in Sydney and provide improved learning opportunities for students with employment opportunities for teachers. The proposal is also consistent with the underlying objectives that support the wider goals and directions contained within the Plan, including: • Objective 1: Infrastructure supports the three cities The proposal will improve a vital piece of educational infrastructure in Eastern Sydney. It will provide contemporary facilities to meet modern educational standards and provide increased jobs and growth for the Waverley LGA. • Objective 3: Infrastructure adapts to meet future needs The proposal has been designed to be adaptable to meet the future needs of the community, with innovative contemporary design, flexible learning spaces and a more efficient use of land that will be essential in responding to growth and changing demands. • Objective 6: Services and infrastructure meet communities' changing needs In accordance with Waverley Council DA Consent 86/193 the Moriah College Swimming Pool, Gymnasium and Auditorium are made available for general public use. In addition, the School facilities are made available for use by the Jewish community. These 'out of core hour' activities are detailed in the approved Plan of Management.
Future Transport Strategy 2056	Future Transport 2056 is an update of NSW's Long-Term Transport Master Plan which seeks to promote the use of public transport as an effective travel option. The site benefits from being located:

Strategic Plan or Policy	Comment
	• Within an area well serviced by buses and the Bondi Junction Railway Station; and • Within a planned residential neighbourhood containing appropriate footpaths. Employees and students can cycle, walk or catch the bus or train to the School. This will reduce reliance on cars, decrease congestion and promote in sustainable outcomes. A Green Travel has been prepared by TTPP to accompany the proposal and is included at **Appendix K** of this EIS. The Green Travel Plan proposes a range of strategies aimed at encouraging public and active transport use, which will further reduce reliance on private vehicle use.
State Infrastructure Strategy 2018 – 2038 Building the Momentum	The Strategy identifies that the NSW economy is expected to grow from $539 million to $1.4 trillion over the next 40 years. The projected economic growth will increase the demand for economic and social infrastructure. The proposal will deliver state of the art educational infrastructure to meet the educational needs of a growing population and a growing economy.
Sydney's Cycling Future 2013	Sydney's Cycling Future (2013) seeks to make bicycle riding a feasible transport option within Sydney by encouraging in the use of Sydney's existing bicycle network. Waverly Council's 2013 Bike Plan identifies Queens Park Road as a shoulder lane and Queens Park as a shared use path. 108 bicycle parking spaces are proposed on campus in accordance with Council's DCP.
Sydney's Walking Future 2013	Sydney's Walking Future (2013) aims to promote walking as a means of effective transport within Sydney by encouraging investment in safe, permeable walking networks. The school is close to residential neighbourhoods which encourage current and future Students, teachers and parents to access the site easily by walking. This will promote healthy practise and decrease vehicular use.
Sydney's Bus Future 2013	Sydney's Bus Future (2013) outlines the NSW Government's long-term plan to deliver fast and reliable bus services within Sydney to meet current and future customer needs. The site is directly serviced by route 357 which runs between mascot station and Bondi Junction. Bondi Junction Railways Station is located 1.1km walking distance north of the site. The station is located on the T4 Eastern Suburbs & Illawarra Line which travels through Sydney's CBD to south western suburbs of Sydney including Cronulla and Helensburgh. The College currently has arrangements with the State Transit Authority for special school bus services to deliver and pick up students in the morning and afternoon. In addition to this, the College provides shuttle bus services between the Bondi Junction/Maroubra area and the site. This shuttle bus services (Moriah Shuttle Bus, MSB) supplements the regular bus services each school day. Students can be collected from any bus stop along the designated route.

Strategic Plan or Policy	Comment
Crime Prevention Through Environmental Design (CPTED) Principles	The Crime Prevention Through Environmental Design (CPTED) guidelines were prepared by the NSW Police in conjunction with the DPE. CPTED provides a clear approach to crime prevention and focuses on the 'planning, design and structure of cities and neighbourhoods. The main aims of the policy are to: • Limit opportunities for crime; • Manage space to create a safe environment through common ownership and encouraging the public to become active guardians; and • Increase the perceived risk involved in committing crime. • The guidelines provide four key principles to limit crime. A CPTED assessment has been prepared by FJMT to accompany this EIS. This assesses the proposal design against performance criteria and design requirements. The recommendations included in the CPTED report have been or can be incorporated into the final school design. Accordingly, the proposal will provide a high level of security and be designed to deter criminal behaviour.
Better Placed: An integrated design policy for the built environment of New South Wales (GANSW, 2017)	Better Placed – An integrated design policy for the built environment of NSW 2017 advocates that everyone has a role in ensuring our cities and towns are better places. The policy is based on seven objectives that define the key considerations in the design of the built environment: *1. Better fit: contextual, local and of its place* *2. Better performance: sustainable, adaptable and durable* *3. Better for community: inclusive, connected and diverse* *4. Better for people: safe, comfortable and liveable* *5. Better working: functional, efficient and fit for purpose* *6. Better value: creating and adding value* *7. Better look and feel: engaging, inviting and attractive* The Urban Design Report prepared by FJMT (**Appendix E**) discuss how the proposal has adopted these seven objectives into the design process.
Eastern City District Plan	Released in October 2017, the Revised Draft Eastern City District Plan includes a range of goals, directions and actions that aim to support the strategic growth of Sydney over the long term. The Revised Draft Eastern City District Plan was finalised as the Eastern City District Plan (District Plan) on 18 March 2018. Three of the key planning directions in the Strategy are: ***E1 - Planning for a city supported by infrastructure*** ***E3 - Providing services and social infrastructure to meet people's changing needs***

Strategic Plan or Policy	Comment
	E4 - Fostering healthy, creative, culturally rich and socially connected communities In accordance with the District Plan, this SSDA will ensure the delivery of upgraded, world class educational facilities to meet Sydney's growing educational needs. This will ensure that a high quality educational experience is continued to be provided to students to support a healthy, creative, culturally rich and socially connected communities.

6. ENGAGEMENT

6.1. ENGAGEMENT APPROACH

A Consultation Outcomes Report has been prepared by Urbis is provided at **Appendix Y**. The report has been prepared to document engagement activities undertaken to date. Key stakeholders relevant to the project are:

- School community;
- Local community;
- Government Architect NSW (GANSW);
- Roads and Maritime Services (RMS);
- Transport for NSW (TfNSW);
- Waverly Council; and
- Aboriginal stakeholders.

The following sections provide a summary of the consultation undertaken to date.

6.2. SCHOOL ENGAGEMENT ACTIVITIES

A letter for parents, students and staff was prepared to outline key features of the proposal and invite members of the community to contribute their feedback regarding the proposed masterplan. The letter provided details of feedback mechanisms for Urbis Engagement to obtain more information.

The letter was distributed by Moriah College on 19 June 2019 to parents and teachers.

6.3. COMMUNITY ENGAGEMENT ACTIVITIES

Urbis engagement undertook a comprehensive community engagement program to inform the preparation of this EIS. Engagement activities include:

- Near neighbour letterbox drop: a letter explaining the proposal and how to utilise the dedicated feedback channels. This was an opportunity for near neighbours to be provided information, answer questions and collect feedback.

  One letter was distributed to 150 properties on Queens Park Road, Queens Park on 27 June 2019 by Urbis Engagement.

- Fact sheet: A fact sheet was prepared, and distributed to approximately 500 households in the surrounding catchment, to outline key features of the proposal and invite members of the community to contribute their ideas and thoughts. The fact sheet also invited stakeholders to a community information session.

- Website: As part of the consultation process, and to ensure access to specialised information regarding the proposal was readily available, a dedicated project website was developed.

  The project website will remain open until the SSDA is determined, to keep stakeholders informed.

- Media: On 21 June 2019, a media release was distributed regarding the Moriah College SEARSs request by Urbis Engagement. This media release was provided to identified stakeholders, with associated press articles being published in local media.

- Stakeholder briefings: A briefing request was sent to identified stakeholders offering the opportunity to meet with members of the project team and learn more about the proposal. The feedback obtained in these briefings outlined an interest in student capacity, and traffic and access.

- The following stakeholders were invited to meet for a face to face briefing:
    - Member for Coogee, Dr Marjorie O'Neil
    - Member for Vaucluse, Hon. Gabrielle Upton
    - Moriah Community Consultative Committee
    - Waverly Council elected representatives
    - Queens Park Precinct Group.
- At the time of writing this report both the State representatives, Waverley Council elected representatives and the Moriah Community Consultative Committee declined the offer for a briefing.
- A one-hour briefing was held with two members of the Queens Park Precinct Committee on 18 June 2019. The Queens Park Precinct Committee are a local resident council group who advocate for and update Council regarding issues in the Queens Park area. Feedback at the briefing was neutral with questions received regarding the increase in school numbers and the design of the proposed building.
- Engagement email and phone line: Members of the public were invited to contact Urbis Engagement through a dedicated 1800 phone number and/or an email address for the duration of the engagement period. At the time of writing this report 10 people have phoned or emailed to provide feedback and/or seek further information during the period of June-September 2019.
- Community Information Session: A two-hour information session was held on 19 June September 2019 at Moriah College after providing an invitation to 500 homes via a letterbox drop. Two community members attended the session, providing a 0.4% attendance rate after the letterbox drop.

  The focus of the discussions was traffic, school student numbers and design of the building. One feedback form was received.

A detailed summary of feedback has been outlined in Section 8 of engagement report at Appendix Y.

6.4. GOVERNMENT ARCHITECT NSW

The project team have consulted with the Government Architect's Office. Three sessions have been held with the GANSW:

- 08/07/19 First Briefing (Feedback provided on 08/08/19)
- 19/09/19 Second Briefing (Feedback provided on 25/09/19)

Key points and matters discussed at this meeting are outlined in the Urban Design Report at Appendix E.

GANSW provided further matters to be refined following the second briefing on 19/09 the following commentary was received:

The following commentary was provided including recommendations for design development these matters and the response provided by FJMT is outlined in the following table:

Table 18 – GANSW comments

Matter	Response
enhancing the green connection between Queens Park and Centennial Park via the school, including through planting of native species, reflecting those in Queens and Centennial parks, which would also provide necessary shade for students	The proposal incorporates a comprehensive landscaping strategy that includes the planting of a number of native species consistent with the surrounding open space areas.

Matter	Response
softening periphery walls through landscaping	The eastern facade has been softened through both the incorporation of landscape to the base of the screen wall but also to the first setback level where a timber trellis will include low maintenance planting
integrating an art programme along periphery walls, entrance gates and into the campus	Discussions have been commenced with the College with regards to the incorporation of an Art Project. The main entry wall and the northern section (Stage 1C) boundary masonry wall have been identified for future artwork
expressing the unique cultural character of the campus, including Aboriginal and Jewish histories, in the architecture (e.g. form and materials) and landscape (e.g. selection of plant species)	The screen wall will be developed to incorporate an appropriate cultural motif to represent the Jewish culture. The Landscape Report has identified the use of Jewish/ Aboriginal and Indigenous planting
We support the changes made to set back and reduce the extent of built form as seen from York and Baronga roads, but note the height of the STEAM building still exceeds the maximum permissible on site. The impact on views across the valley of Queens Park and Centennial Park will need to be evaluated once the visual impact analysis has been finalised.	A detailed visual impact assessment has been undertaken that addresses this concern (refer Appendix I)

6.5. WAVERLEY COUNCIL

The project team met with members of the Waverley Council Development Assessment and Engineering teams on 10 October 2019. The purpose of the meeting was to provide an overview of the proposal and discuss key issues including built form, traffic and parking, and student numbers. Preliminary comments provided during the meeting have been addressed in the EIS and supporting technical documentation.

A further meeting is to be held with Council's Traffic Engineers to discuss potential upgrades to surrounding roads and footpaths.

6.6. ABORIGINAL STAKEHOLDERS

Consultation for the ACHAR undertaken by Urbis Heritage is summarised in Section 3 of Appendix N. In accordance with relevant guidelines for community consultation and include a four-stage consultation process summarised as follows:

- Stage 1 – Notification of Project proposal and registration of interest: A total of 8 groups registered interested in the project as a result of this phase within the nominated timeframe. Acknowledgement emails or telephone calls were made by Urbis to respondents, to confirm registration had been received

  In accordance with Section 4.1.3 of the Consultation Guidelines, an advertisement was placed in one local newspapers, the Wentworth Courier. These advertisements were featured in the 31st July 2019 edition, and registration was open until 14th August 2019. No responses were received.

- Stage 2 - Presentation of information about the proposed Project: Stage 2 Information Pack, parties including a brief introduction to the project, the project location, and AHIMS search result to provide understanding of the registered cultural sites in the local area, was sent to registered Aboriginal parties via email on the 15th August 2019. Request for response to the Stage 2/3 Information Packet was set to 12th September 2019. No responses on the Stage 2/3 Information Pack were received.

- Stage 3 - Gathering information about the cultural significance: A site visit was conducted on Thursday 19th September 2019 with seven RAPs in attendance. A pedestrian survey of the subject area was undertaken followed by a discussion session held in one of the campus classrooms.

  The site visits confirmed the RAPs have expressed their support for the proposed methodology. Discussion was held by the proposed test excavation and the representatives of Moriah college have expressed their commitment to work with the RAPs for the rest of the project and also to interpret any identified Aboriginal objects, archaeological resources and cultural heritage values that might be uncovered by the test excavation. The RAPs expressed their strong support for the proposed recommendations and methodology.

- Stage 4 – Review of draft cultural heritage assessment report: The aim of Stage 4 is to prepare and finalise an ACHAR with input from registered Aboriginal Parties. This Draft ACHAR was provided to all groups on Tuesday 1st October 2019, with the date for response set to Wednesday 30th October 2019. Three responses were received to the draft ACHAR.

7. ENVIRONMENTAL IMPACT ASSESSMENT

7.1. INTRODUCTION

This Section of the EIS provides a comprehensive environmental assessment undertaken with reference to the requirements specified for the project (**Appendix A**), relevant environmental planning instruments, and relevant provisions of the EP&A Act.

The specialist technical reports annexed to this EIS address the key issues identified in the SEARs. The following sections provide an environmental assessment of the proposal.

7.2. ASSESSMENT METHODOLOGY

The assessment of the impacts has been informed by the extensive and comprehensive inputs from various consultants in the proposal team covering a wide range of technical aspects. This process has included the following steps:

- Review of the preliminary scheme for the proposal against the relevant SEARs, legislation, policies, and guidelines to assess compliance.
- Iterative design development with recommendations from proposal team to ensure the final scheme for the Proposal can meet the requirements set out by the SEARs.
- Consultation with various agencies and authorities to ensure the Proposal can address their concerns and requirements.
- Merit assessment of the Proposal for each specific aspect of the proposal within its physical, social, economic or strategic context (as relevant), and against the applicable SEARs, legislation, policies and guidelines.
- An assessment of the cumulative impacts of the proposal.
- Preparation of a Risk Assessment Matrix to identify environmental impacts and consider any mitigation measures that can be implemented to manage those impacts.
- Conclusion of environmental impact for each aspect based on implementation of the mitigation measures.

7.3. BUILT FORM AND URBAN DESIGN

7.3.1. Methodology

The height, bulk, and scale of each built form and public domain element of the proposal has been considered in detail in Urban Design Report at **Appendix E**.

The design of the proposal has been the subject of discussions and recommendations from the NSW Government Architect's Office, which have been implemented to progressively improve the overall built form and urban design outcome.

7.3.2. Design Principles

The following provides a summary of the key design principles that have driven the proposed design.

Contemporary learning practices

- *Diverse and Flexible spaces that are engaging and welcoming;*
- *Creating a stimulating and emotionally positive learning environment; and*
- *Designing spaces that allow for incidental and experimental learning.*

Place and identity – creation of a strong identity and address

- *Create a campus arrival marked by a series of clear and distinctive open spaces and connected buildings'*
- *Enhancement of the unique character of the campus by recognising its historical context;*
- *Enhancing the campus with reference to its natural topography; and*
- *Reinforcement of an inclusive sense of place and identity.*

Sustainable learning environments – campuses which lead by example

- *Connection to the environment;*
- *Designing a campus that is inclusive and accessible;*
- *Passive design and consideration of proportions to maximise amenity;*
- *Future proofing the campus to withstand changes in climate and student population increases; and*
- *Promoting buildings as a learning tool.*

New gathering focus

- *Strengthening of the original campus master plan;*
- *A revised focus on open spaces that can improve student's daily interactions with the campus; and*
- *Providing a new shared space that forms the geographic centre of the campus.*

Safety and security

- *Promote safety, security, and accessible.*

Community

- *Creating a campus that is truly connected to the community in which it is located.*

Connection and orientation – a collective and connected campus

- *Providing clarity of way finding and entrance sequence throughout the campus;*
- *Providing a hierarchy of access ways and entrances;*
- *Provide at least one weather protected route to all buildings through the campus;*
- *Provide visible open spaces and access ways that strengthen incidental interactions between people*

Religious and Cultural Identity

- *Enforce the campuses rich religious and cultural identity through built form elements.*

7.3.3. Building Height and Scale

Stage 1

The maximum building height of the STEAM building is 20.7m above natural ground level. The building height has been determined by the topography of the site, the connections with adjoining and immediately adjacent buildings, and scale and built form of the existing campus.

The building is sited at the south eastern corner of the site at which establishes a civic presence along Baronga Avenue. The proposed new front door of the campus is located at Baronga avenue to further establish its presence along the streetscape. The proposal is distinctive and will be visible and recognisable.

Figure 25 – Photomontage of the proposal from Baronga Avenue

Source: FJMT

The massing of the building at the south eastern corner of the site along Baronga Avenue has considered the alignment of existing roads. 6-12.5m setbacks are proposed which provide an appropriate security buffer addressing campus wide security requirements. This setback also provides a 5m landscaped buffer along Baronga Avenue. The siting of the building also allows for the proposed green connecter which acts as the organisational element of the campus.

The built form of the new STEAM building is conceived as a series of elements to break down the scale when viewed against the skyline from the east (Queens Park), and from the junction of York Road and Baronga Avenue. The eastern elevation of the upper ground and level 1 is divided into two to reduce the scale of the façade. This also provides both visual connection into the campus and opportunities for daylight access to into the central portions of the campus.

Level 2 is further setback along Baronga Avenue and is expressed as a landscaped terrace. The upper most level cantilevers over the main form and signifies a new identity for the high school portion of the campus.

Stage 2

The massing and form of the proposed building envelope for stage 2 is conceived as three interlocking forms. The form to the south is a single storey building with an activated and landscaped roof, the form to the north spans over the new internal access roadway and addresses the new green connector. The upper most form is angles to minimised overshadowing and respond to the Shul.

7.3.4. Building Setbacks

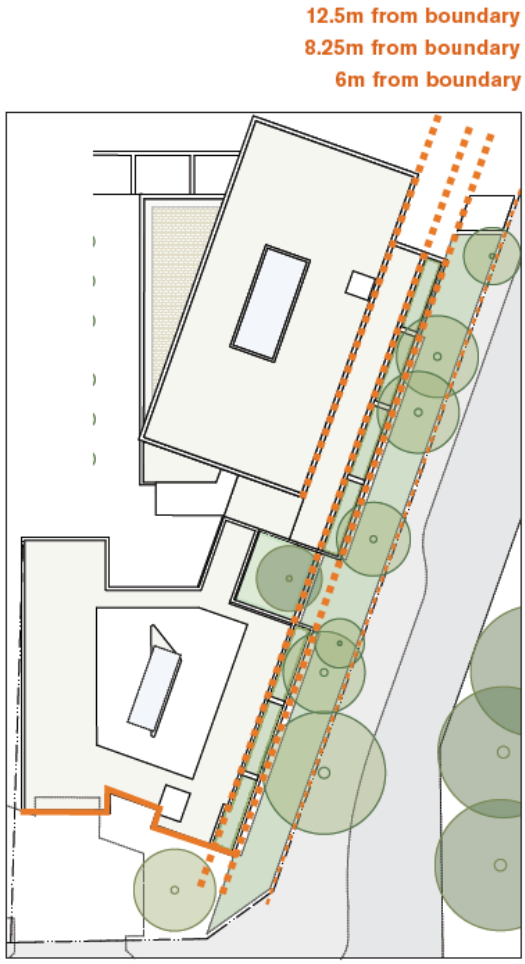
The proposed building setbacks create a sensitive built form response and ample separation to residential interface boundaries that minimise bulk, overshadowing, and privacy impacts. Proposed building setbacks include:

Stage 1

- **Southern Setback** – (York Road): approximately 10m.
- **Northern Frontage** (Queens Park Road): the built form element of the proposal is well setback from this frontage (approximately 110m) as it located to the south toward the southern eastern corner of the site.

- **Western Boundary** – (Environmental Conservation Area and York Road): generous setbacks proposed (approximately 80m)
- **Eastern Setback – Primary Frontage** (Baronga Avenue and Queens Park): A staggered setback is proposed as detailed in **Figure 26**. Setbacks range from 12.5m to 6m.

Figure 26 – Eastern Setback



Source: FJMT

Stage 2

- **Southern Setback** – (York Road): approximately 63m.
- **Northern Frontage** (Queens Park Road): the built form element of the proposal is well setback from this frontage (approximately 150m) as it located to the south of the site
- **Western Boundary** – (Environmental Conservation Area): approximately 30m
- **Eastern Setback –** (Baronga Avenue): setback approximately 55m.

7.3.5. Design Quality

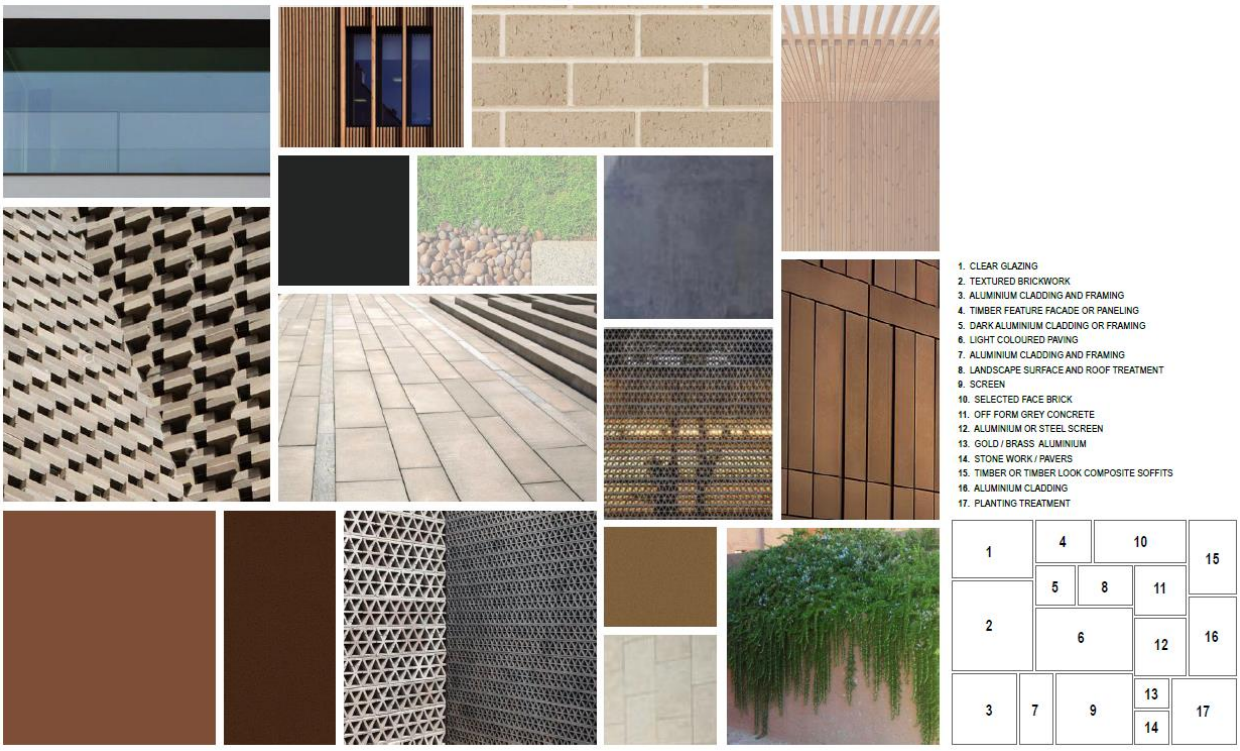
The main entries and functional elements of the proposal are distinctive which accentuates their intended use. Patterns of colour and materials are used to provide contrast to distinguish these function elements of the building. The structural frame and integral shading elements provide depth and visual interest. The new green connector connects the campus directly to landscape and ensures that it is integrated with the built form, through courtyards and terraces. The design of the proposal has considered site wide, strategic and spatial planning of the campus as it continues to adapt to the future growth and changes in educational requirements.

The continued implementation of design excellence through detailed design, construction and management of the building and landscaped elements will ensure design excellence is achieved.

7.3.6. Building Materials and Finishes

The materiality of the proposal is complimentary of the built form elements of the existing school campus. The proposal will comprise of an exposed structure of off form concreate with rendered masonry face brick in fill coupled with dark bronze toned powder coat finished aluminium framing (see **Figure 27**).

Figure 27 – Materials and Finishes



Source: FJMT

7.4. LANDSCAPING

A total of 34 trees are proposed to be removed with 10 identified for retention. Appropriate landscaping has been proposed to compensate tree removal in accordance with endemic species to the region. New plantings will provide part of a green network to areas of native planting in the locality, that can be utilised by native flora and fauna.

A comprehensive Landscaping Strategy Report accompanies this EIS at Appendix F which proposes extensive planting as part of a landscaping scheme for the site. Proposed landscaping works are further detailed at Section 0 of this EIS. In addition to appropriate plantings and pedestrian circulation principles, outdoor recreation spaces are proposed including multipurpose sporting facilities.

360 Degrees have analysed the existing and proposed scenario in terms of landscaping provisions as summarised below (see Table 19).

Table 19 – Landscaping Analysis

Criteria	Existing	Stage 1	Stage 2
Canopy Cover	• 3860m^2 Canopy coverage • 15% Canopy coverage of Total Site	• 6640m^2 Canopy coverage • 26% Canopy coverage of Total Site • New Trees: 96	• 8000m^2 Canopy coverage • 31% Canopy coverage of Total Site • New Trees: 112
Open Space Area	• 8760m^2 Open Space coverage	• 14580m^2 Open Space coverage	• 13280m^2 Open Space coverage

Criteria	Existing	Stage 1	Stage 2
	• 34% Open Space of Total Site	• 56% Open Space of Total Site	• 51% Open Space of Total Site
Landscape Area	• 4440m^2 Landscape coverage • 17% Landscape coverage of Total Site	• 4340m^2 Landscape coverage • 17% Landscape coverage of Total Site	• 4940m^2 Landscape coverage • 19% Landscape coverage of Total Site

As demonstrated, the proposal will result in a substantial increase in open space area and landscaped area. It will also result in the planting of 112 new trees.

7.5. ENVIRONMENTAL AMENITY

7.5.1. Overshadowing and Solar Access

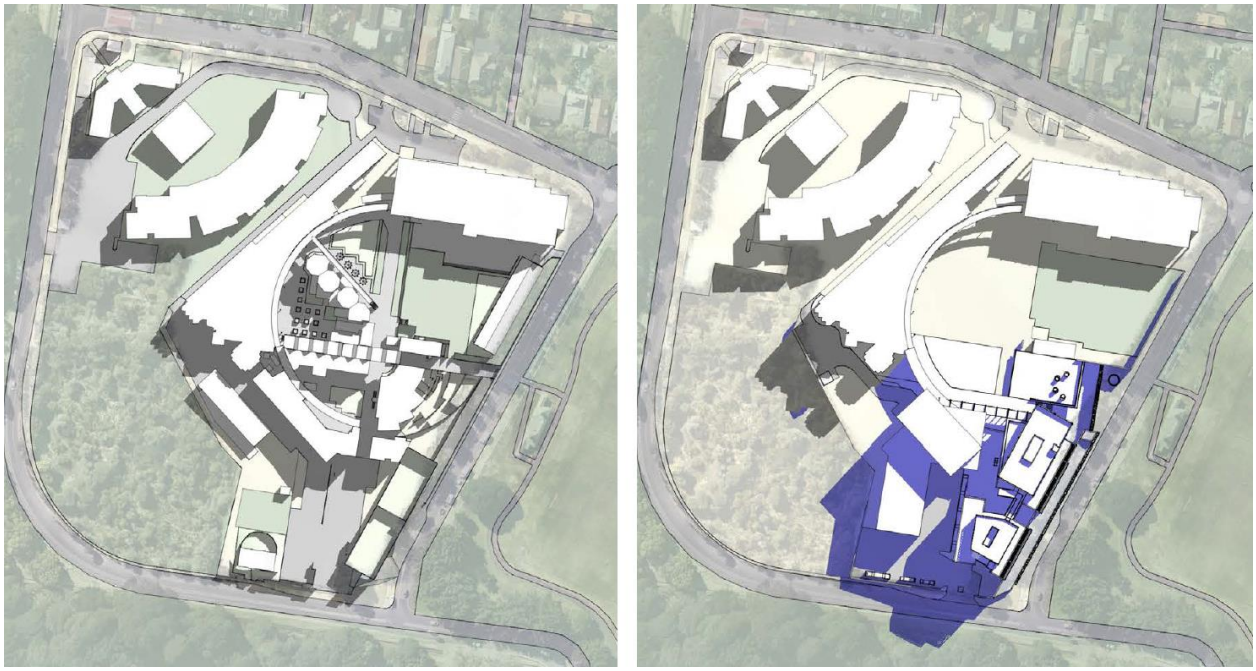
FJMT has prepared shadow diagrams for the winter solstices from 9am to 3pm. The following provides an assessment of the proposals overshadowing impacts during winder:

9am – 21st June

Shadowing impacts in the early morning period are generally restricted to site and road pavement. Minor overshadowing occurs to the at south eastern edge of the Eastern Coastal Banksia Scrub. The majority of this area receives full sun.

No residential development is overshadowed.

Figure 28 – Existing (left) and proposed (right) overshadowing at 9am – 21st June



Source: FJMT

12 mid-day – 21st June

Shadowing during the mid-day period is restricted to the road pavement. No residential development is overshadowed.

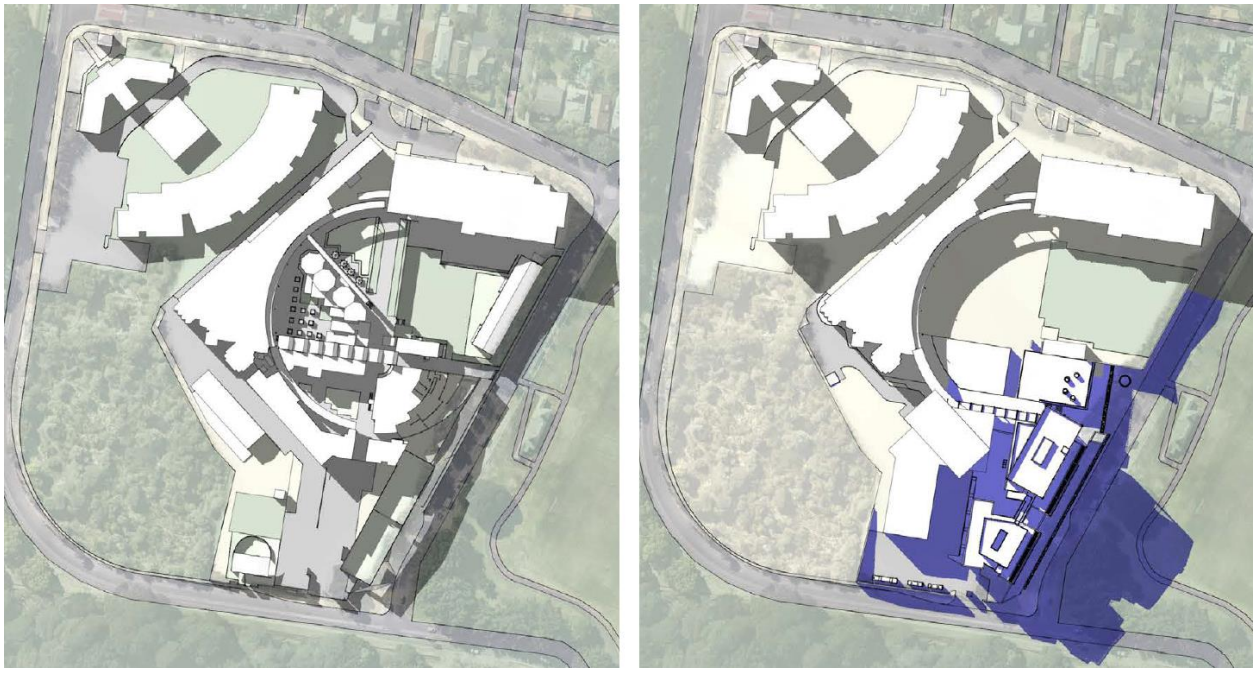
Figure 29 – Existing (left) and proposed (right) overshadowing at 12 mid-day – 21st June

Source: FJMT

3pm – 21st June

There will be some overshadowing of Queen's Park during the mid-afternoon. This overshadowing is considered acceptable noting that the park will have unobstructed solar access between 9am and 2pm.

Figure 30 – Existing (left) and proposed (right) overshadowing at 3pm – 21st June



Source: FJMT

Overall, the shadow impact is appropriate. No residential properties are impacted. The majority of the scrubland (to the west) and Queen's Park (to the east) receives unobstructed sunlight.

7.5.2. Visual Privacy

There are significant separation distances between the proposed building and surrounding development to prevent any significant loss of privacy.

The nearest residential buildings are located to the north of the built form elements of the proposal are separated by other buildings within the campus and Queens Park Road. There not expected to be any unreasonable impacts associated with the development from a privacy perspective.

7.5.3. Wind Impact

An analysis of the development on pedestrian wind environment has been undertaken by Windtech (see **Appendix H**). This includes a detailed assessment of the wind activity examined from the three predominant wind directions for the Sydney region. The analysis of the wind effects relating to the proposed development was carried out in the context of the local wind climate, building morphology and land topography. No wind tunnel testing was undertaken for the subject development, and hence this report addresses only the general wind effects and any localised effects that are identifiable by visual inspection.

Generally, the existing conditions are predominately exposed to the southerly and western wind directions. The areas potentially adversely affected by these winds are the pedestrian walkways following the vehicular access to York road, and the various elevated terraces of both buildings. It is expected that the wind effects identified in wind assessment report can be ameliorated with the consideration of the following treatment strategies into the design of stage 1.

Elevated terraces

- The inclusion of 2 m high impermeable and porous screens at strategic locations.

The following recommendation are made to the detailed design of the Stage 2 building:

Upper Ground Level

- The inclusion of porous screens at the southern opening of the thoroughfare of the ELC building.
- The implementation of a 2 m high screen following the perimeter of the ELC outdoor area.
- The planting of densely foliating evergreen trees near the north-eastern opening of the thoroughfare of the ELC building.

7.5.4. View Impacts

A visual impact assessment of the proposal has been undertaken by Cardno (refer **Appendix I**). The analysis has been supported by a series of photomontages of views from selected representative viewpoints prepared by Virtual Ideas Pty Ltd.

Cardno's analysis of the proposed development has found:

- The new building group would be visible from Queens Park and from surrounding streets but would be either framed or significantly screened by existing vegetation. In this context, it is considered that the building group as proposed would be a contributive element to local visual quality in these views.
- The building has been shown through GIS based visual catchment analysis to be only visible from very isolated locations within Centennial Park. Where it would be potentially visible it would form a very small component of broad and expansive views and is impact on visual quality would be negligible.

Overall, the development at its proposed height would not have an unacceptable impact on views from the locality and specifically from Queens Park and Centennial Park.

Existing Environment

The site's existing surrounding context is summarised in Section 2.3 of this EIS. Broadly, the surrounding context is characterised significant parcels of open space to the south and east including Queens Park and Centennial Park. Panoramic views from these locations are characterised by broad, open vistas with a predominance of vegetation. There is intermittent visibility of varying architectural quality as horizon elements.

Visibility of the proposal

Cardno generated visual catchment diagrams at a 1km radius form the site using LIDAR data and GIS technology (refer Figure 31). The diagram indicates that the proposal would be visible from the lower lying parts of Queens Park directly to the east of the site but would be screened by topography and existing vegetation in the Park from the majority of the parkland. Similarly, the proposed buildings would not be visible from the great majority of surrounding suburban residential lands incorporated in the Queens Park Heritage Conservation Area.

The diagrams also indicate that, apart from some very small areas of elevated land, the development would essentially not be visible from land to the west, including Centennial Park.

Typical view locations were selected from within the identified visual catchment to assess the likely impact of the development on local views.

Figure 31 – Visibility of the proposal in a 1km radius, with selected viewpoints

Source: Cardno

View Analysis

Photomontages from the identified viewpoints are provided at Figure 32 to Figure 36. Outcomes of the analysis of impacts on visual quality are summarised in the following section.

Figure 32 – Close view towards the site from the north western edge of Queens Park

Source: Virtual Ideas

Figure 33 – Close view towards site from the south western edge of Queens Park

Source: Virtual Ideas

Figure 34 – Mid distant views from Queens Park

Source: Virtual Ideas

Figure 35 – Slightly elevated view from the central northern portion of Queens Park

Source: Virtual Ideas

Figure 36 – Elevated view from the north eastern edge of Centennial Park

Source: Cardno

Views from the East (Queens Park)

- The development will create a new built element on the skyline in views from Queens Park.
- In both close and distant view from the Park the built form will be screened to differing degrees by existing vegetation along the boundaries of Queens Park and adjacent to the western edge of the Moriah College site.
- In views from the south east (around viewpoints 3 & 4) the new building will be substantially screened by vegetation with the screening effect increasing with movement to the south towards York and Darley Roads.
- From the central western and north western edges of Queens Park (around viewpoints 1 & 2) the building would form a substantial new skyline element in the view, with its lower portions screened by vegetation occurring largely within the boundary of the College site along its frontage to Baronga Avenue.
- From more distant views from the eastern edges of Queens Park, the developed site would form a small built horizon component in expansive views that include both built and vegetated horizons.

Views from the West (Centennial Park)

- The views assessment has found that the new development would be unlikely to be visible from Centennial Park. If visible at all, it would form a very small built component in expansive views from very restricted portions of elevated land near the north eastern boundary of the Park.
- The impact of the development on the visual integrity of Centennial Park would be negligible.

Mitigation Measures

Measures to mitigate any identified visual impacts may include:

- Retention and protection where possible of existing vegetation on the eastern boundary of the site.
- Ensuring high architectural quality in the proposed building by:
    - Designing in response to the character of the locality;
    - Including well-articulated and detailed facades;
    - Using non-reflective finishes, particularly on facades facing Queens Park.
- Implementation of a considered landscape scheme that will complement the built form and provide a landscape setting consistent with the visual and heritage values of the locality.

7.5.5. External Lighting

JHA Engineers have prepared a lighting assessment and accompanying lighting strategy to suitably mitigate any light impacts of the proposal (**Appendix AA**). The proposal includes exterior lighting the street entrance, car park area, landscaped areas, and building façade. Lighting typologies including post top luminaires, bollards, and accent lighting. As part of the proposed lighting design, careful selection of luminaires will aid in minimising the effects of obtrusive lighting.

The following are proposed to reduce spill light on sensitive use areas:

- Luminaires selected with appropriate distribution
- Minimal upwards light
- Minimisation of direct visibility of light sources
- Cowling light sources where required
- Intelligent lighting control equipment
- Consideration of sightlines to minimise threshold increment to oncoming traffic and pedestrians.

Given the operation hours of the school is generally restricted to typical daylight hours, and the separation of the school from surrounding residential uses, it is considered that the proposed lighting strategy will mitigate any light spill impacts associated with the new school.

7.6. TRANSPORT AND ACCESSIBILITY

A transport impact assessment (TIA) of the development has been undertaken by TTPP (**Appendix K**). Key findings of this assessment are presented below. The report identifies that the overall traffic impacts of the proposal are considered acceptable.

7.6.1. Road Safety Audit

In accordance with the requirements of the SEARs, GHD undertook a road safety audit of the existing conditions surrounding the site on 8 August 2019. Following this inspection, GHD documented the existing road safety conditions in their road safety audit report (at **Appendix J**). Section 4.1 of the transport impact assessment (at **Appendix K**) summarises the audit findings and recommended actions. Recommended actions include:

- Whilst it is generally Council's responsibility to maintain existing line-marking and signage within the LGA, it is recommended that the School consider contributing to:
    - upgrading the existing faded line-marking and signage as part of the proposed development;
    - upgrade/maintenance of the identified existing barrier end treatment as part of the proposed development.
- traffic surveys be undertaken to determine whether the existing pedestrian refuge meets the RMS warrants for a children's crossing or pedestrian crossing. If so, Council/RMS approval would be required to upgrade the existing pedestrian refuge.

- the existing pedestrian crossing on Baronga Avenue be extended across the kerbside travel lane. A kerb buildout is also recommended to remove the dual through lanes and improve visibility on approach to the pedestrian crossing.
- the School liaise with relevant authorities to address the identified lighting issues;
- the proponent educates all staff and parents to address the identified road safety concerns (i.e. do not queue earlier than the designated pick-up times and do not walk on the roadway).
- any temporary traffic management devices used on-site are upgraded as per current standards (i.e. cones with reflective bands).

7.6.2. Car Parking

The site currently provides 201 on-site parking spaces, including four motorcycle spaces. A total of 171 of these spaces are dedicated to staff members. Based on on-site observations by TTPP the existing car parks on site are generally well utilised throughout the day, with limited car parking spaces available. Visitor car parking spaces are managed by the College through a booking system prior to their arrival to ensure the appropriate allocation of visitor spaces.

There are no specific car parking rates for educational establishments for primary and secondary schools under the DCP. The current level of provision equates to approximately 0.57 spaces per staff member. An additional 26 staff are proposed as part of Stage 1. It is proposed to provide an additional 17 car parking spaces to cater for the proposed increase in staff numbers. This will maintain the current rate of provision and is considered satisfactory. Of the 17 new spaces, 8 will be accessible. This complies with BCA requirements and the provisions in the DCP.

7.6.3. Bicycle Parking

The proposed additional student and staff population, inclusive of the Stage 2 ELC population, generates a requirement for an additional 108 bicycles spaces to be provided on site. These will be provided at Stage 1 and have been included in the architectural plans for the concept development.

7.6.4. Service and Emergency Vehicle Access

Service and emergency vehicle access will continue to be provided via the south car park on York Road as per existing conditions. A new loading area is proposed within the south car park on York Road to service the new STEAM building. Swept path analysis demonstrates that all anticipated service vehicles can enter and exit the site in a forward direction. This loading area will be managed by the College to ensure servicing requirements are undertaken outside of school peak times to minimise interactions between vehicles and pedestrians.

7.6.5. Drop-Off/Pick-Up Activities

The proposal maintains the existing drop-off/pick-up arrangements for the primary school and ELC with pick up and drop off occurring wholly within the site.

A new loop rood drop-off/ pick-up system for secondary students will be established in the south car park on York Road. This loop road will enable queues to be largely contained within the site to minimise on-street queueing.

All drop-off/pick-up activities will be managed by the College in accordance with the Transport Traffic and Parking Plan as per existing conditions to minimise traffic and parking impacts on the surrounding road network in consultation with Council. All parents will be required to pre-register their vehicle to access the designated drop-off/pick up areas as per existing conditions.

7.6.6. Road Network Assessment

TTPP have undertaken a traffic assessment of the proposal assuming that there would be no modal shift away from cars (or other modes) in future stages. It is, however, noted that travel demand strategies are proposed to be implemented at the school, which aim to influence the way people move to and from the school to encourage sustainable methods of travel and reduce traffic and parking impacts on the locality.

To effectively assess any traffic impacts of the proposal, TTPP have applied vehicle trip generation rates associated with each stage of the project. This includes consideration of the incremental increase in student numbers associated with each stage of the project (see Table 9).

Stage 1

Stage 1 of the development is proposed to provide 295 staff (including 10 ELC staff) and 1,680 students by Year 2024. This equates to an additional nine staff and 80 students compared to the existing approved school capacity. The Stage 1 proposal is expected to generate an additional 54vph and 36vph during the school AM and PM peak periods respectively.

Future background growth figures up to Year 2024 have been applied to the background traffic models based on future traffic growth predictions extracted from Roads and Maritime's Sydney Strategic Traffic Forecasting Model.

It is noted that the existing traffic volumes obtained from the intersection count surveys only captured the development trips generated by the existing school population (1,455 students). Therefore, the net traffic associated with the approved school enrolment numbers (1,600 students) have been added to the base model to account for any variation in the school population within the model year.

A comparison between the future base year 2021 and stage 1 development scenario during the school AM and PM peaks is provided in Figure 37.

Figure 37 – Stage 1 Peak Traffic Volumes

Intersection		Control	Future 2023 – No Dev			Future 2023 – Stage 1 Dev		
			Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	78	F	31	93	F	35
2	Queens Park Rd-Baronga Ave	Roundabout	16	B	113	19	B	151
3	York Rd-Baronga Ave	Priority	65	E	170	131	F	304

AM Peak Comparison (7:45am-8:45am)

Intersection		Control	Future 2023 – No Dev			Future 2023 – Stage 1 Dev		
			Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	48	D	9	53	D	10
2	Queens Park Rd-Baronga Ave	Roundabout	10	A	34	11	A	37
3	York Rd-Baronga Ave	Priority	121	F	235	194	F	347

PM Peak Comparison (3:00pm-4:00pm)

Source: TTPP

The York Road-Baronga Avenue intersection would operate at LoS E/F during both AM and PM peak periods even without the additional development traffic. This intersection is expected to be tipped to operate from LoS E to F in the AM peak as a result of the increased left-turn movements from York Road onto Baronga Avenue, which will impact right-turn movements into Baronga Avenue. In addition to this, the York Road-Queens Park Road intersection would continue to operate at LoS F in the AM peak with minimal additional delays due to the increase in school traffic.

Notwithstanding this, it is noted that the overall intersection performance at the surrounding key intersections will operate at an acceptable performance at LoS D or better during both AM and PM peak periods and that above intersection performance only relates to the worst movement (i.e. right-turn movements).The overall intersection performance at the surrounding key intersections will operate at an acceptable performance at LoS D or better during both AM and PM peak periods.

Stage 2

Stage 2 of the development proposes to increase the ELC provisions to accommodate 13 staff and 130 students (equating in a net increase of three staff and 50 students) by Year 2030. It is also proposed to increase the primary and high school population to 1,760 students and approximately 293 staff. Future background growth figures up to Year 2030 have been applied to the traffic models accordingly.

The Stage 2 proposal is expected to generate an additional 88vph and 37vph during the school AM and PM peak periods respectively. The combined Stage 1 and 2 development traffic volumes are shown in **Figure 38**.

Figure 38 – Stage 1 and 2 Combined Traffic Volumes

Intersection		Control	Future 2030 – No Dev			Future 2030 – Stage 1 Dev			Future 2030 – Stage 1 +2 Dev		
			Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	90	F	34	108	F	39	121	F	42
2	Queens Park Rd-Baronga Ave	Roundabout	18	B	129	24	B	180	30	C	227
3	York Rd-Baronga Ave	Priority	83	F	208	156	F	355	196	F	424

AM Peak Comparison (7:45am-8:45am)

Intersection		Control	Future 2030 – No Dev			Future 2030 – Stage 1 Dev			Future 2030 – Stage 1 +2 Dev		
			Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	58	E	10	66	E	11	66	E	12
2	Queens Park Rd-Baronga Ave	Roundabout	10	A	34	11	A	38	11	A	39
3	York Rd-Baronga Ave	Priority	197	F	357	283	F	476	309	F	508

PM Peak Comparison (3:00pm-4:00pm)

Source: TTPP

Both the York Road - Queens Park Road and York Road-Baronga Avenue intersections would continue operate with LoS E/F during the AM and PM peak periods with the completion of Phase 2 development. Similar to the Stage 1 traffic modelling results, it should be noted that the overall intersection performance at the surrounding key intersections will operate at an acceptable performance at LoS D or better during both AM and PM peak periods and that above poor intersection performance only relates to the worst movement (i.e. right-turn movements).

Final School Capacity Increase

The final stage of the development is expected to increase the school enrolment numbers to 1,840 primary and high school students and 302 staff by Year 2036. The ELC population and staff numbers will be maintained as per the Stage 2 development outlined above.

The final school capacity increase stage in 2036 is expected to generate an additional 54vph and 35vph during the school AM and PM peak periods respectively. The final development traffic volumes are shown in **Figure 39**.

Figure 39 – Final School Capacity Increase Traffic Volumes

Intersection		Control	Future 2036 – No Dev			Future 2036 – Stage 1 Dev			Future 2036 – Stage 1 +2 Dev			Future 2036 – Stage 1 +2 +Ultimate Dev		
			Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	101	F	37	124	F	43	140	F	48	147	F	51
2	Queens Park Rd-Baronga Ave	Roundabout	21	B	148	30	C	216	40	C	278	45	D	311
3	York Rd-Baronga Ave	Priority	102	F	246	184	F	401	223	F	470	247	F	511

AM Peak Comparison (7:45am-8:45am)

Intersection		Control	Future 2036 – No Dev			Future 2036 – Stage 1 Dev			Future 2036 – Stage 1 +2 Dev			Future 2036 – Stage 1 +2 +Ultimate Dev		
			Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)	Ave. Delay (sec)	LoS	95th %tile Queue Length (m)
1	York Rd -Queens Park Rd	Priority	71	F	12	82	F	14	84	F	14	88	F	14
2	Queens Park Rd-Baronga Ave	Roundabout	10	A	35	11	A	38	11	A	39	11	A	40
3	York Rd-Baronga Ave	Priority	274	F	469	371	F	588	399	F	620	429	F	654

PM Peak Comparison (3:00pm-4:00pm)

Source: TTPP

Intersection modelling results of Year 2036 scenarios indicate that the background traffic growth by Year 2036 would tip the performance of York Road-Queens Park Road and York Road-Baronga Avenue to LoS F during both AM and PM peak periods even without the school expansion.

The delays at York Road-Queens Park Road and York Road-Baronga Avenue intersections would increase during the AM and PM peak periods with the completion of ultimate development stage.

In addition to this, the Queens Park Road-Baronga Avenue intersection is expected to be tipped to operate from LoS C to D in the AM Peak with the completion of the ultimate development stage. This however is still considered an acceptable intersection performance.

Similar to the traffic modelling results of other scenarios, the overall intersection performance at the surrounding key intersections will operate at an acceptable performance at LoS D or better during both AM and PM peak periods and that above poor intersection performance only relates to the worst movement (i.e. right-turn movements).

7.6.7. Intersection upgrades

Traffic modelling results indicate that the York Road-Queens Park Road and York Road- Baronga Avenue intersections are expected to operate at LoS F during the AM peak in the future irrespective of the proposed development. With the proposed development traffic, both these intersections would experience higher delays during both AM and PM peak periods as a result of right-turn delays at these intersections.

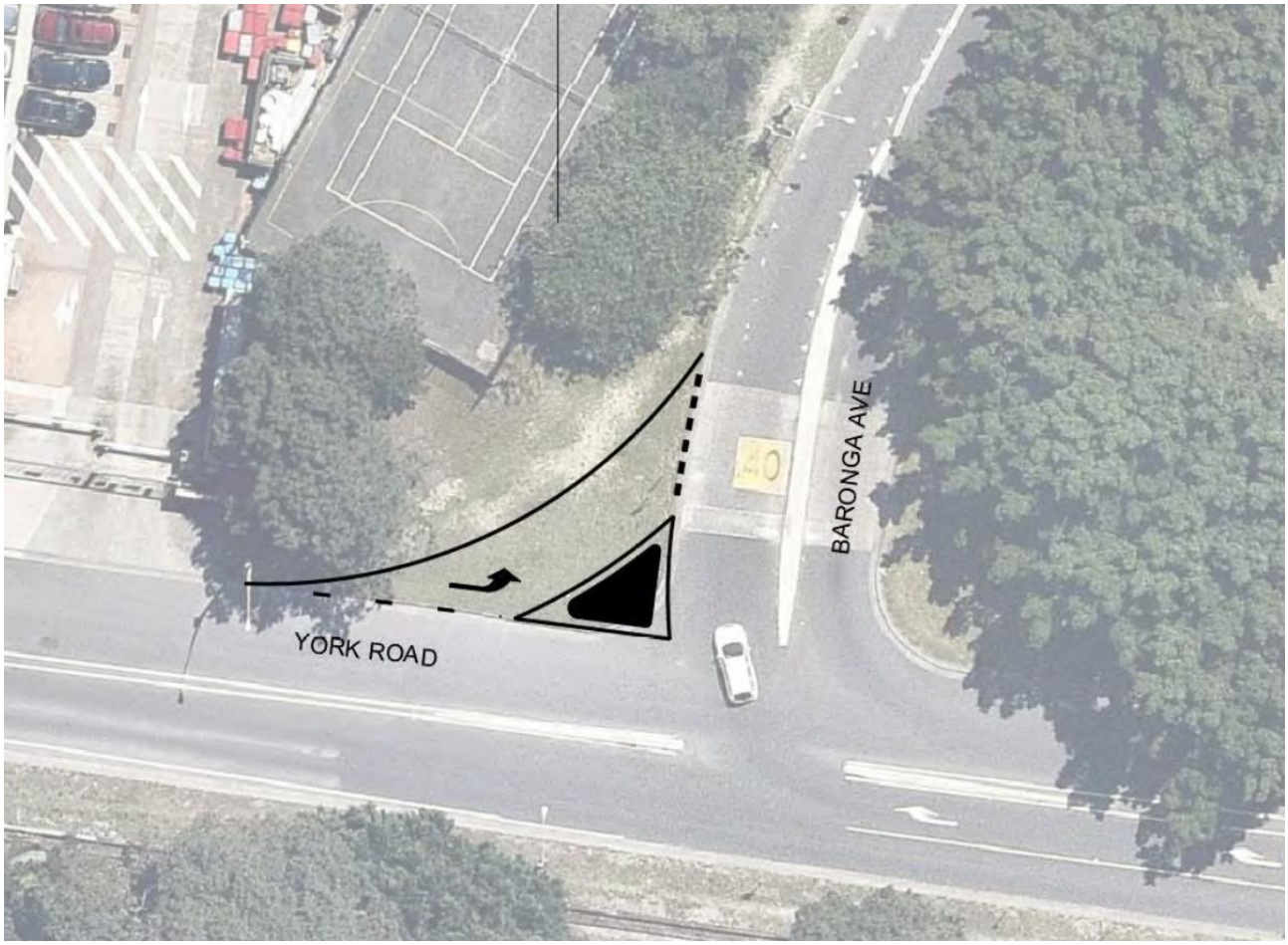
These results suggest that the current intersection control should be investigated to improve intersection capacity. A possible improvement measure at the York Road-Queens Park road intersection would be to upgrade this intersection to a seagull intersection, such that right turn traffic from Queens Park Road would be able to turn onto York Road in two stages, as shown in Figure 40.

Under such seagull arrangements, right-turn movements would have to first give way to one direction of traffic (i.e. southbound traffic on Queens Park Road) to travel into the “merge lane”, before merging onto Queens Park Road in the northbound direction.

Figure 40 – Proposed ‘seagull treatment layout’ York Road – Queens Park intersection

It is noted that the York Road-Baronga Avenue would continue to operate at LoS F in the future case as a result of traffic turning right from York Road into Baronga Avenue during school peak periods. Limited road infrastructure improvement works can be accommodated based upon existing site constraints. A possible solution may however be the provision of a left-turn slip lane on York Road to improve right-turn movements, as shown in Figure 41.

Figure 41 – Proposed 'slip lane treatment layout' York Road – Baronga Avenue intersection



7.6.8. Travel Demand Management Measures

Travel demand management measures will be implemented to reduce the overall school traffic to manage impacts during school peak periods and reduce impacts on the surrounding road network. These include:

- provision of a green travel plan for the school; and
- introduction of staggered arrival and departure times for each year group and ELC.

It is anticipated that the proposed management measures could result to 10% modal shift away from car use therefore reducing the overall car trips generated by the school. Overall, the additional vehicle trip generation of the proposed scheme combined (i.e. Stages 1, 2 and ultimate stage) could decrease from 196vph to 59vph during the school AM peak and from 108vph to 22vph during school PM peak period.

A summary of the traffic modelling results at the York Road-Queens Park Road and York Road-Baronga Avenue intersections, with the proposed intersection treatments and modal shift, is shown in Figure 42. The results suggest that there would be a substantial reduction in the delays at York Road-Queens Park Road and York Road-Baronga Avenue intersections due to the anticipated modal shift away from car use.

Figure 42 – Ultimate Development Traffic Volume – With Improvements

	Intersection	Control	Future 2036 – No Dev, No Upgrade			Future 2036 – Stage 1 +2 + Ultimate Dev			Future 2036 – Stage 1 +2 + Ultimate Dev (with modal shift)			Future 2036 – Stage 1 +2 + Ultimate Dev (with modal shift + intersection upgrade)		
			Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)
1	York Rd - Queens Park Rd	Upgraded Seagull	101	F	37	147	F	51	112	F	40	18	B	40
2	Queens Park Rd-Baronga Ave	No Upgrades	21	B	148	45	D	311	25	B	180	25	B	180
3	York Rd-Baronga Ave	With LT slip lane	102	F	246	247	F	511	135	F	311	9	A	38

Ultimate Development School AM Peak (7:45am-8:45am) – With Improvements

	Intersection	Control	Future 2036 – No Dev, No Upgrade			Future 2036 – Stage 1 +2 + Ultimate Dev			Future 2036 – Stage 1 +2 + Ultimate Dev (with modal shift)			Future 2036 – Stage 1 +2 + Ultimate Dev (with modal shift + intersection upgrade)		
			Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)	Average Delay (sec)	Level of Service	95th Percentile Queue Length (m)
1	York Rd - Queens Park Rd	Upgraded Seagull	71	F	12	88	F	14	74	F	12	13	A	10
2	Queens Park Rd-Baronga Ave	No Upgrades	10	A	35	11	A	40	10	A	36	10	A	36
3	York Rd-Baronga Ave	With LT slip lane	274	F	469	429	F	654	297	F	499	14	A	37

Ultimate Development School PM Peak (3:00pm-4:00pm) – With Improvements

Source: TTPP

7.6.9. Green Travel Plan

The College already carries out a number of green travel measures for members of staff, parents/caregivers and students. These include:

- Provision of a Transport Access Guide (TAG) (or Transport Management Plan) which is given to all staff, students and parents/ caregivers
- Provision of information at the School and on the School's website to make staff and students more aware of the alternative transport options available to them
- Provision of bicycle facilities including bicycle parking and shower and change room facilities
- Regular updates on active travel in the School's newsletter to staff and visitors to help promote local travel initiatives.

In addition to the existing measures, a Green Travel Plan (GTP) has been prepared by TTPP and is provided at **Appendix K**. The GTP proposes a range of strategies aimed at encouraging public and active transport use. The following GTP initiatives are proposed:

- organise a carpool system/registry which could reduce single private vehicle car trips to and from the school
- provision of public transport timetable, car share vehicle locations and cycle maps on noticeboards to make staff more aware of alternative transport options
- organise a walking/cycling group, or similar, to promote walking/use of bicycles of staff and students living in the same area
- organise lessons to teach students and staff to ride a bike
- provision of appropriate uniform for students to ride to school
- enhance existing bicycle repair tools and end-of-trip facilities including shower and changing rooms as well as bicycle infrastructure

- arrange activities and promotions to encourage staff and students to use public transport
  - hosting and participating on active travel events such as Ride2Work Day and National Bike Week
  - provision of Opal card or GoGet car share discounts or incentives
  - affiliation to local bicycle retailer and service centre to provide discounts for staff and students
- provision of a dedicated car share bay within the school grounds to promote staff use of such car share facilities.

The GTP will be subject to ongoing monitoring and review to ensure its effectiveness and to introduce additional measures as required.

7.6.10. Summary and Mitigation Measures

Overall, the proposed scheme combined (i.e. Stages 1, 2 and ultimate stage) is expected to generate an additional 196vph and 108vph during the school AM and PM peak periods respectively.

The intersections of York Road-Queens Park Road and York Road-Baronga Avenue currently operates at LoS E/F in the AM peak and PM peak respectively. Traffic modelling results indicate that both York Road-Queens Park Road and York Road-Baronga Avenue intersections would operate with LoS F by year 2036 regardless of the additional school traffic. Queens Park Road-Baronga Avenue intersection would still continue to operate satisfactorily at LoS D or better during the AM and PM peak periods even with the completion of ultimate development stage.

It is recommended that the existing York Road-Queens Park Road intersection be upgraded as a seagull intersection to improve the existing and future operations of the intersection. A slip lane at York Road-Baronga Avenue intersection could also significantly improve the intersection performance.

To manage the impacts associated with the proposal, the school will implement travel demand management measures to minimise its impact on the surrounding road network, including the:

- provision of a green travel plan for the school
- introduction of staggered arrival and departure times for each year group and ELC.

The proposed travel demand measures are expected to reduce the school car use by 10%. The achievement of 10% modal shift will ensure that traffic levels post development are similar to those currently achieved.

With these proposed upgrade works and modal shift, the intersections of York Road-Queens Park Road and York Road-Baronga Avenue would operate satisfactorily with LoS A/B.

Overall, it is concluded that the traffic and parking aspects of the proposed scheme could be managed and would generally be acceptable. With the implementation of green travel strategies, the vehicle trip generation of the proposed scheme would significantly be reduced such that it would be comparable with that generated by the approved school capacity.

Thus, the surrounding key intersections would not be unreasonably affected by the proposed school expansion.

7.7. CONSTRUCTION TRAFFIC MANAGEMENT

A preliminary Construction Traffic Management Plan has been prepared by TTPP to accompany this EIS at **Appendix W.**

The estimated construction traffic generation is for up to 10 truck movements (two-way) per hour expected during peak construction activities. This is considered low particularly when considered in context to nearby intersections that carry significantly higher traffic flows than that generated by the proposed construction activities.

During the earlier demolition stage truck movements would be less, and variances in traffic from day to day could be up to 10 per cent. It is also proposed that no construction vehicle movements to/from the site will be permitted during school peak drop off and pick up times unless otherwise approved.

All truck drivers will be advised of the designated truck routes to/from the site and be required to adhere to the nominated routes. On a local level, it is proposed to use York Road, Darley Road and Alison Road to access the site. These roads provide good connectivity to/from the arterial road network via Anzac Parade and Oxford Street

Construction vehicle access to the site will be provided via Gate 3A and 4 to complete initial tasks and then via Gate 4 for the remaining construction activities. Swept path analysis indicates that appropriate vehicle access can be accommodated to/from the site. All construction vehicles will enter and exit the site in a forward direction. No queueing of construction vehicles will take place on public streets and all loading and unloading associated with the construction activities will be undertaken wholly within the site. Appropriate pedestrian and vehicle management measures will be implemented to ensure safety during the construction phase of the development.

The anticipated number of construction staff is not yet known at this stage. However, no onsite contractor vehicle parking will be provided during school hours. All workers will be expected to use public transport to travel to/from the site and this will be communicated as part of their induction activities.

As such, the proposed construction activities are not expected to result in adverse impacts on the surrounding road network.

7.8. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

7.8.1. Methodology

An Ecologically Sustainable Development (ESD) Report has been prepared to accompany the proposal (at **Appendix L**). The report has been prepared in response to the SEARs requirements for ESD and includes an assessment against relevant statutory regulations, relevant National Construction Codes, Government Architect NSW Design Guides, and Greenstar benchmarking against the Green Building Council of Australia Framework.

7.8.2. Principles of Ecologically Sustainable Development

Clause 7(1)(f) of Part 3 of Schedule 2 of the EP&A Regulation requires an EIS to include the reasons justifying the carrying out of the development in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development. These principles are addressed in the ESD report at **Appendix L** and summarised below.

Table 20 – Principles of ESD Compliance

Principle of ESD	Comment
(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:	The precautionary principle has been applied in the environmental impact assessment process documented in this EIS. Environmental investigations have been undertaken to ensure that potential impacts are understood with a high degree of certainty. There are no perceived threats of serious or irreversible environmental damage as a result of the development.
(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and *(ii) an assessment of the risk-weighted consequences of various options,*	The development incorporates measures to reduce environmental damage with best practice initiatives such as creating green spaces, and enhanced biodiversity for landscaping. Adequate investigations have been undertaken to enable the consequences of the development to be understood and measures have been incorporated into the design to manage and mitigate impacts.

Principle of ESD	Comment
(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,	The health, diversity and productivity of the local environment would not be significantly impacted as a result of the development. The proposal ensures that the heath, diversity, and productivity of the environment are maintained or enhanced through the inclusion of zero ozone depleting refrigerants, best practice PVC and low impact paints, sealants and adhesives, alongside a focus on providing greater vegetation and support for the buildings connection with nature, the project demonstrates a strong commitment to the preservation of environmental health, diversity and productivity of the local area.
(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,	The proposal includes planting of native vegetation, improvement of stormwater runoff from the site and use of integrated landscaping, the project will act to improve, conserve and support the local biological diversity and integrity.
(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as: *(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,* *(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,* *(iii) environmental goals, having been established, should be pursued in the most cost effective way, by establishing incentive structures, including market mechanisms, that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.*	The project has involved significant input from the Quantity Surveyor who will be involved throughout the entire design process to ensuring that the project both remains on budget and effectively considers environmental factors in the valuation of assets and services. Furthermore, the project will look at maintainability and the operational costs associated with individual design initiatives and the overall design.

7.8.3. Green Building Code of Australia Framework

The Green Building Council of Australia's provides an internationally recognised system to assess sustainable outcomes throughout the life cycle of the built environment. Although the proposal is utilizing the Government Architects to benchmark the project to Industry Best Practice Sustainability, there are several initiatives covered by the Green Star tool that are additional to the requirement of the EFSG.

Northrop have confirmed that the inclusion of considered materiality and waste reduction measures, futureproofing and use of low carbon materials, energy and water efficiency, and technology such as renewable energy, to demonstrate alignment to industry best practice frameworks.

If assessed against Green Star the proposal would likely achieve a rating of 4 Stars or Australian Best Practice Sustainability.

7.8.4. Climate Change

The proposal will consider the impacts of climate change through identifying and addressing all high and extreme risks posed over the expected lifecycle. This will be achieved through the creation of a Climate Adaption Plan which will provide an assessment of climate change scenarios of the project using at least two time scales relevant to the project's anticipated lifespan.

7.8.5. Mitigation Measures

Measures to minimise consumption of resources, water, and energy include:

- A strong commitment to energy efficiency with the project design to demonstrate a 40% energy reduction over a standard construction building of its type;
- A highly efficient façade system designed to minimise heat gain into the building while promoting the entry of daylight into classroom spaces;
- Low impact materials selections with the project maximising the reuse of onsite materials and the use of certified materials where applicable;
- The use of highly efficient water fixtures and fittings, alongside a waterless heat rejection system;
- Integration of educational signage, wayfinding and monitoring systems across the site; and
- An optimised air conditioning system to provide good provision of outside air while maintaining thermal comfort in the classroom areas.

7.9. SOCIAL IMPACTS

7.9.1. Methodology

Social Impact Assessment is defined as the process of analysing, assessing and responding to the potential social impacts of a proposed development, with a view to minimising negative social impacts and enhancing positive social impacts. A process of community and key stakeholder engagement was undertaken to inform the preparation of this EIS as summarised in **Section 6**.

7.9.2. Assessment

The proposal will generate numerous beneficial social and economic impacts for including:

- The proposal will create temporary job opportunities during the demolition and construction phase of the development;
- Redevelopment of the school will provide modern, state-of-the art learning and play spaces for its students, which will still preserve the character of the School and environment and enable the School to continue to make a significant contribution to Australian education;
- The potential disruption to the education environment during construction can be mitigated through effective communication and implementation of a construction management plan (CMP). Intensification of use on the site is expected to be mitigated through the improved school design;
- The proposal will result in additional area for outdoor recreation to improve the health and welling of future students;
- The design will create a series of high quality and modern teaching spaces which are flexible and promote increased social interaction among students and teachers;
- The proposed built form has been designed to ensure residential amenity will be maintained to nearby residential dwellings;
- The proposal will help ease student enrolment pressures and take enrolment pressure off other schools within the surrounding area;

- The proposal will have minimal visual impacts from Queens Park and Centennial Park. The proposed buildings will be visible from Queens Park and from surrounding streets but will be either framed or significantly screened by existing vegetation. In this context, it is considered that proposed buildings will contributary element to local visual quality in these views. It will only be visible from very isolated locations within Centennial Park. Where it will be potentially visible it would form a very small component of broad and expansive views and is impact on visual quality would be negligible.
- The external materials and finishes to be used complement the surrounding built and natural environment of the locality; and
- The proposal has been designed in accordance with CPTED design principles to deter crime. Accordingly, the proposal will positively activate the site and provides opportunities for passive surveillance.

7.10. HERITAGE

7.10.1. Methodology

Urbis Heritage have prepared a Heritage Impact Statement (HIS) (**Appendix M**) to assess the potential impacts of the proposal on the heritage significance of the two landscape conservation areas within the site including Conservation Area – Landscape: Eastern Suburbs Banksia Scrub (C57) and the Conservation Area – Landscape: Remnant Bushland (C40).

The HIS has been prepared in accordance with the NSW Heritage Division guidelines *'Assessing Heritage Significance*', and *'Statements of Heritage Impact'*. The philosophy and process adopted is that guided by the *Australia ICOMOS Burra Charter 1999 (revised 2013)*.

Due to the proximity and historical relationship of the subject site with Centennial Park and Queens Park, the HIS has referenced the Centennial Parklands Conservation Management Plan, prepared by Conybeare Morrison & Partners in 2003 for Centennial Parklands. However, the subject site has been excluded from the CMP.

7.10.2. Assessment

The HIS has assessed the impacts of the proposal from a heritage perspective and have concluded:

- The isolation of the works to the south-eastern corner of the subject site, particularly along the eastern boundary places the proposed works at an acceptable distance from the protected scrubland on site and on the adjacent lot. Therefore, the two locally listed landscaped conservation areas will not be impacted by the proposal.
- The low scale of the proposed new buildings ensures they will not overshadow the protected landscape areas.
- The buildings and structures proposed for demolition do not contribute to the landscape significance of the site. The buildings were constructed in the late twentieth century and do not have a historic or visual relationship with the surrounding vicinity items
- The use of the site will not be altered, therefore the character of the site and the contribution or existing relationship of the site to the surrounding heritage items and conservation areas will not be altered.
- The low scale and location of the proposed new buildings minimises any visual impacts to the visual relationships between Centennial Park and Queens Park. The only disturbance will be caused by the extension of the built form further south (in the currently location of the tennis courts). However, due to the setback of the building from the boundary of the site and the clear views down York Road, this disruption is minor and will not detrimentally impact the visual relationships between the two parks.
- Due to the location of the buildings and the existing College buildings (which will remain), they will not be visible from the Queens Park heritage Conservation Area. Likewise, the substantial distance and the low scale of the buildings, ensures they will have no physical or visual impacts to the North Randwick Conservation Area.

- In addition, the shelter located on York Street (locally listed heritage item ID no: I428) will not be impacted due to the scale of the heritage item and the physical separation of the proposed works created by the location on the opposite corner of the site. The built form elements of the proposal will not be visible from the vicinity of the small shelter due to the existing College buildings, the low scale of the proposal, and topography of the site which slops down to the south of the site.
- Overall, the works will not have any physical impacts to the vicinity items due to the isolation of the works.

The proposal is therefore supported from a heritage perspective. Therefore, no mitigation measures are required.

7.11. ABORIGINAL AND CULTURAL HERITAGE

7.11.1. Methodology

An Aboriginal Cultural Heritage Assessment Report (ACHAR) has been prepared to accompany this EIS at **Appendix N**. This report provides an assessment of the Aboriginal archaeological potential of the study area and measures the impact of the proposed development on any soil profiles with the potential to contain Aboriginal archaeological deposits and objects. This ACHAR assess the impact of the proposal on any identified items or places of Aboriginal cultural heritage value.

Findings from the ACHAR are used to develop mitigative strategies under the appropriate legislation and to devise an appropriate strategy for the management of Aboriginal archaeological and cultural heritage values of the area.

Consultation for the ACHAR has been undertaken in accordance with relevant guidelines for community consultation and include a four-stage consultation process summarised as follows:

- Stage 1 – Notification of Project proposal and registration of interest.
- Stage 2 - Presentation of information about the proposed Project.
- Stage 3 - Gathering information about the cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

In accordance with stage 4, an Office of Environment and Heritage Guideline and Part 6 of the National Parks and Wildlife Act 1974, the 28 day Aboriginal Stakeholder Consultation is currently being undertaken to inform the preparation of the ACHAR (see **Section 6.6** of this EIS). A final report will be lodged with the DPIE once completed.

In addition to stakeholder consultation, the ACHAR includes background information searches and fieldwork.

7.11.2. Assessment

Urbis heritage have assessed the potential impact of the proposal from an aboriginal heritage perspective and have concluded that:

- There are no registered Aboriginal objects and/or archaeological sites within the subject area;
- There are landscape features, including the consolidated aeolian sand body that part of the Tuggerah Soil Landscape and locally the Botany Bay sands, with potential for Aboriginal objects or archaeological deposits located within the subject area;
- Additional investigation is warranted in the form of subsurface archaeological test excavation to establish the presence or absence of Aboriginal objects and archaeological resources within the subject area.
- No Aboriginal cultural heritage values have been identified by the RAPs.
- The RAPs have expressed their support for the proposed recommendations and additional works.

7.11.3. Mitigation Measures

Urbis Heritage had provided the following recommended mitigation measures:

- The applicant should continue to consult with the Aboriginal community in regard to the proposal;
- A geomorphological assessment should be carried out to investigate the underlaying sand body to provide further information of the accumulation processes and inform the detailed Archaeological Research Design and Methodology.
- An Archaeological Research Design and Methodology should be prepared for the sub-surface investigation of the identified landscape features and their potential for retaining Aboriginal objects and archaeological resources including:
    - Archaeological monitoring of the final demolition phases associated with the proposal, including the removal of the car park, pavements and slabs of standing structures;
    - Archaeological test excavation to confirm the presence or absence of Aboriginal objects and archaeological resources within the subject area.
    - Protocol for the handling of any Aboriginal objects and archaeological resources that might be uncovered during the monitoring and the archaeological test excavation.
- The archaeological monitoring and test excavation should be undertaken according to the developed Archaeological Research Design and Methodology and with the participation of the nominated Aboriginal RAPs and appropriately qualified archaeologists.
- The archaeological monitoring and test excavation should be designed to correspond the stages of the proposed development, including demolition and construction phases.

7.12. NOISE AND VIBRATION

JHA have undertaken a noise and vibration impact assessment of the proposal (**Appendix G**). The findings are summarised below.

7.12.1. Methodology

Attended and unattended noise surveys were conducted in locations shown in **Figure 43** to establish the ambient background noise levels of the site and surrounds.

On 5 August 2019, short term noise measurements were carried out during the day to obtain representative octave band noise levels of the site and the nearest noise sensitive receivers. The short-term noise measurements were carried out with an NTI XL-2 hand-held Sound Level Meter (SLM) (Serial Number A2A-13742-E0).

Long-term noise monitoring was carried out from Monday 5th August to Tuesday 13th August 2019 with a Rion NL-52 noise logger (Serial Number 1254316). This monitor was located at Baronga Avenue at the site boundary as displayed at **Figure 43**.

Figure 43 – Noise monitoring locations

Source: JHA

7.12.2. Operational Noise

JHA have assessed operational noise impacts against the guidelines referenced in the SEARs and their experience in the assessment of noise generation by schools. Their assessment is summarised below:

- **External Mechanical Plant:** At this stage, mechanical plant selections have not been made; therefore, it is not possible to undertake a detailed assessment of the mechanical plant noise emissions. Noise controls will need to be incorporated with the design of the mechanical plant rooms to ensure that the cumulative noise levels from plant to the nearest noise sensitive receivers meets the NPI 2017 noise level criteria. Mitigation measures are included below.
- **Public Address and School Bell Systems**: At this stage, public address and school bell systems selections have been not made; therefore, it is not possible to undertake a detailed assessment of the public address and school bell noise emissions. The Public Address and School Bell Systems shall be designed, installed and operated such that the systems do not interfere unreasonably with the comfort and repose of occupants of nearby residences. Further detailed mitigation measures are included below.
- **Auditorium Noise**: Based on the assessment, the lecture theatre is expected to meet the operational noise criteria for the evening period.
- **Outdoor Playgrounds**: Noise levels meet the most stringent AAAC Guideline criterion with students using outdoor playgrounds for more than two hours per day for residential receivers.
- **Early Learning Centre**: Noise levels meet the relevant criterion during day time periods.
- **Road Traffic Noise**: The traffic increase due to the proposed development will not result in any noticeable change in traffic noise levels and is expected to meet the NSW EPA Road Noise Policy 2011 recommendations.
- **Out of Hours Carpark Noise Impact**: The proposed after hours use of the new lecture theatre is expected to have less attendees and shorter periods of use than existing events occurring on the Moriah College Campus. It is expected that there will be no additional noise impact on neighbouring noise sensitive receivers for after hour use of the school carparks.

7.12.3. Construction Noise

JHA has assessed construction noise impacts associated with the proposal and have provided general recommendations in line with applicable criteria together with best noise and vibration control practices to be observed during the construction of the proposal.

A preliminary construction noise assessment has been carried out based on typical plant and machinery expected throughout the construction stages. Based on the results of the preliminary assessment, the noise associated with normal construction works is expected to meet the noise limits for standard hours at the nearest residential receivers. There are expected to be criteria exceedances for the local active and passive recreation areas. Mitigation measures have been recommended for the contractor to implement during exceedances when these areas are in use (see **Section 9**)**.**

These measures should be determined in detail when a contractor has been engaged. Notwithstanding, project-specific mitigation measures have been recommended in **Section 10** of this EIS.

7.12.4. Mitigation Measures

JHA have identified the following mitigation strategies:

Operational

- Usual design noise controls that may need to be implemented will typically include, but are not limited to:
    - Strategic location and selection of mechanical plant to ensure the cumulative noise levels at the receiver boundaries are met.
    - Selection of appropriate quiet plant.
    - Acoustic noise control measures to be put in place to minimise noise impacts such as:
        - In-duct attenuation
        - Noise enclosures as required
        - Sound absorptive panels
        - Acoustic louvres as required
        - Noise barriers as required
- It is anticipated that the noise impact to the nearest sensitive receivers will be negligible if following measures are implemented:
    - Low-powered horn-type speakers shall be located and orientated to provide a good coverage of the school areas whilst being directly away from residences and near sensitive receivers. System coverage shall be reviewed during the detailed design phase.
    - Speakers shall be mounted with a downward angle and as close to the floor as possible.
    - The noise level of the systems shall be adjusted on site so they will be clearly audible on the school site without being excessive. The systems shall initially be set so that the noise at nearby residences and sensitive receivers do not exceed noise level criteria.
    - Once the appropriate noise level has been determined on site, the systems shall be limited to these noise levels so that staff cannot increase the noise levels.
    - The systems shall be set so that it only occurs on school days. • Glazing requirements and any lightweight building elements are to be confirmed once building setbacks and layouts have been finalised.

Construction

- The Contractor will be required to engage a qualified acoustic consultant to assist in the compilation of a Construction Noise and Vibration Management Plan, and undertake noise and vibration monitoring for the duration of the project.
- It is recommended that noisy construction works will not be undertaken between 6am and 7am in order to minimise any sleep disturbance to the nearest residential receivers. • Complaints handling procedures should be adopted.
- Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver.
- Consider implementing equipment-specific screening or other noise control measures.
- Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site.
- When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks.
- Avoid unnecessary idling of trucks and equipment.
- Ensure that any miscellaneous equipment (extraction fans, hand tools, etc) not specifically identified in this plan incorporates silencing/shielding equipment as required to meet the noise criteria.
- Provide information to neighbours before and during construction.
- Maximising the distance between noise activities and noise sensitive receivers. Strategically locate equipment and plant.
- Employing quieter techniques for all high noise activities such as rock breaking, concrete sawing, and using power and pneumatic tools.
- Using temporary site building and material stockpiles as noise barriers. These can often be created using site earthworks and may be included as a part of final landscape design.
- Planning deliveries and access to the site to occur quietly and efficiently and organising parking only within designated areas located away from sensitive receivers.

7.13. CONTAMINATION

7.13.1. Methodology

A Preliminary Site Investigation (PSI) , in accordance with SEPP 55, has been undertaken by JBS&G to accompany this EIS at **Appendix O**. Investigations comprised:

- Desktop review of readily available site history and site condition records;
- Review of historical aerial photographs, council planning certificates, current and historical land title records, OEH heritage records, EPA notifications, SafeWork Dangerous Goods records, contaminated land records, and review licensed groundwater well data;
- Review of previous investigation reports made available to JBS&G;
- Implementation of a limited intrusive program including systematic and targeted soil sampling at 7 locations; and
- Preparation of a PSI and limited intrusive investigation report in general accordance with relevant EPA endorsed guidelines, including recommendations with regards to management of any potential contamination present.

7.13.2. Assessment

The findings of the preliminary site investigation undertaken by JBS&G are summarised as follows:

- Fill material consists of silty sands and sandy silts encountered to the depths of 0.3 to 1.5 m below ground surface, with minimal anthropogenic inclusions observed;
- The site has historically been used as a hospital, and later for education purposes. The site appears to have undergone cut and fill activities prior to the current facility being constructed;
- Elevated heavy metal and Polycyclic aromatic hydrocarbons contaminant concentrations that were observed above ecological assessment criteria do not appear to impact the current vegetation on-site;
- The removal or relocation of elevated heavy metals in surface soils should be considered in areas where landscaping will be present following redevelopment. Ecological exceedances are not considered to affect areas of the site that are sealed;
- Due to the limited bituminous materials encountered and low leachability, the elevated Benzo(a)pyrene concentration at a single borehole location is not considered to affect the site suitability;
- Soil data does not indicate that contaminants are present above the site assessment criteria; and
- For potential off-site disposal of materials, all soils would be classified as General Solid Waste.

Based on their PSI contamination investigations JBS&G consider that the site is suitable for its continued use for the purposes of a school. Accordingly, the proposal is considered to comply with provisions of SEPP 55 and is suitable for its intended use.

7.13.3. Mitigation Measures

JBS&G have recommended that a detailed soil assessment be undertaken at the site in accordance with recommended EPA sampling density to confirm the characterisation of potential contamination and to support management of materials during redevelopment. It is understood that this can be achieved following demolition of existing site buildings.

7.14. DRAINAGE

7.14.1. Existing Stormwater Drainage

JHA engineers have provided a detailed overview of the existing on-site stormwater drainage arrangements at **Appendix R**. To determine existing stormwater drainage on site, JHA engineers undertook a site inspection. Drainage features inspected included:

- Drainage pits;
- Pipes;
- Detention tanks;
- Dish drains; and
- Trench drains.

Generally, drainage pits appeared to be located suitably throughout the site. No ground surface ponding was evident at the site, and most pits inspected were in an acceptable condition and appeared to be functioning properly. Some stormwater pits were identified as requiring clearing of debris.

Existing stormwater drainage within proposed building footprints will need to be decommissioned. Existing stormwater drainage lines outside of building footprints will be retained if possible.

7.14.2. Stormwater Management

Proposed stormwater conveyance measures are described at **Section 3.11**. The stormwater drainage system will comprise of a number of surface inlet pits and surface channels to collect surface runoff from the site before connecting via an in-ground pipe network to the Council stormwater drainage system in Baronga Avenue. Allowances for downpipe connections will also be made. For details of the building's roof drainage design, refer to the hydraulic drawings.

The proposal will incorporate stormwater quality measures to ensure that potential pollutants are suitably treated.

7.15. FLOODING

A stormwater management plan accompanies this EIS at **Appendix R** prepared by JHA engineers. A review of available flood information has indicated that the site is not affected by major flooding or overland flow events. Notwithstanding this, appropriate on-site drainage arrangements are proposed (refer to **Section 3.11**).

7.16. BIODIVERSITY ASSESSMENT

A BDAR waiver request was submitted to DPIE on 12 August 2019 (see Appendix S). Cumberland Ecology have undertaken an assessment of the proposal against the relevant provisions of the Biodiversity Conservation Act 2016 and Biodiversity Conservation Regulation 2017 and are of the opinion that the proposal is unlikely to have a significant impact on the eight biodiversity values (as defined in Section 1.5 of the Biodiversity Conservation Act 2016 and Clause 1.4 of the Biodiversity Conservation Regulation 2017).

In summary:

- The proposal is highly unlikely to have significant impacts on defined biodiversity values.
- The proposal is anticipated to impact approximately 0.33-hectare area of urban exotic /native planted vegetation that does not conform to any recognised plant community types.
- As the vegetation on the site is identified as urban exotic/native with the subject land comprising of a combination of exotic and native species of planted origin situated within a highly artificial context, it is not considered to conform to any Threatened Ecological Communities listed under either the BC Act or the Environment Protection and Biodiversity Conservation Act 1999 known from the locality.
- A conservation area containing an intact stand of Eastern Suburbs Banksia Scrub exists adjacent to the subject site. This area will not be impacted by the proposal.
- Whilst a small area of Eastern Suburbs Banksia Scrub vegetation overhangs the impact area, no direct or indirect impacts to vegetation within this area is anticipated as a result of the project.
- The proposal may result in a small reduction of marginal foraging habitat for highly mobile, aerial threatened species. When assessing impacts likely from the proposal in its current form, there is very little likelihood of significant impacts to threatened species.

EES group are still yet to determine this request. When a determination is made, the relevant information will be provided to accompany this EIS.

7.17. SEDIMENT, EROSION, AND DUST CONTROLS

Proposed sediment, erosion, and dust control measures are detailed in the accompanying stormwater report at **Appendix R**.

Common control measures adopted include:

- Boundary fencing;
- Stockpiling where appropriate;
- Temporary sedimentation basin located within the downstream portion of the site; and
- Truck washing facilities.

The maintenance of these control measures throughout their intended lifespan will ensure that the risk of erosion and sedimentation pollution of the downstream watercourse will be minimised.

7.18. DISABILITY DISCRIMINATION ACT COMPLIANCE

A Disability Discrimination Act (DDA) Report has been prepared by Morris Goding Access Consulting and is attached at **Appendix X**. This assessment has addressed compliance with:

- *Federal Disability Discrimination Act (DDA);*
- *Disability (Access to Premises – Buildings) Standards 2010;*
- *Building Code of Australia (BCA) Part D3, F2, E3;*
- *AS 1428.1:2009 - (General Requirement for Access);*
- *AS 1428.4.1:2009 - (Tactile Ground Surface Indicators);*
- *AS 2890.6:2009 - (Parking for People with Disabilities);*
- *AS 1735.12:1999 - (Lift Facilities for Persons with Disabilities);*
- *Waverley DCP*

The assessment confirms that:

> *The proposed drawings indicate that accessibility requirements, pertaining to external site linkages, building access, common area access, sanitary facilities and parking can be readily achieved. It is advised that MGAC will work with the project team as the scheme progresses to ensure appropriate outcomes are achieved in building design and external domain design..*

Accordingly, no mitigation measures are required.

8. SECTION 4.15 ASSESSMENT SUMMARY

The proposal has been assessed in accordance with the matters for consideration listed in Section 4.15 of the *Environmental Planning and Assessment Act 1979* as outlined below:

Table 21 – Section 4.15 Assessment Summary

Consideration	Comment
Environmental Planning Instrument	State and Local Environmental Planning Instruments have been assessed in **Section 0** of this EIS.
Draft Environmental Planning Instruments	Draft Environmental Planning Instruments are assessed in **Section 0** of this EIS.
Development Control Plans	The proposal has been assessed against the Waverly Development Control Plan 2012 in **Section 4.13** of this EIS. Although we note the provision of Clause 11 of the SEPP SRD excludes the application of DCPs to SSD.
Any Matters Prescribed by the Regulations	This EIS has been prepared in accordance with Sections 6 and 7, Part 3 in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.
Likely Impacts of the Development	An impact and risk assessment are provided in **Section 7** of this EIS. Mitigation measures to the risks and impacts identified within Section 7 and the relevant Appendices are contained within an Environmental Risk Assessment Matrix in **Section 0**.
Suitability of the Site	The site is entirely suitable for the development as it continues the use of Moriah College for the purposes of an educational establishment. Moriah College has a historical association with the site having been located on the site since the early 1980s. The proposal is also permissible with consent in the SP2 Infrastructure – Educational Establishment Zone. Further, there are no significant environmental constraints that would limit the proposal from being developed at the site.
Any Submission made in accordance with this Act or Regulations	Submissions will be considered following exhibition of the application.
The Public Interest	The public interest is best served by the orderly and economic use of land for permissible purposes in a form which is cognisant of and does not impact unreasonably on development on surrounding land. The proposal satisfies the needs and requirements of the application to provide improved educational facilities at this location that adequately meets the educational needs of existing and future students.

9. MITIGATION MEASURES AND ENVIRONMENTAL RISK ASSESSMENT

The SEARs require an environmental risk analysis to identify potential environmental impacts associated with the proposal.

This analysis comprises a qualitative assessment consistent with AS/NZS ISO 31000:2009 Risk Management–Principles and Guidelines (Standards Australia 2009). The level of risk was assessed by considering the potential impacts of the proposed development prior to application of any mitigation or management measures.

Risk comprises the likelihood of an event occurring and the consequences of that event. For the proposal, the following descriptors were adopted for 'likelihood' and 'consequence'.

Table 22 – Risk Descriptors

LIKELIHOOD		CONSEQUENCE	
A	Almost certain	1	Widespread and/or irreversible impact
B	Likely	2	Extensive but reversible (within 2 years) impact or irreversible local impact
C	Possible	3	Local, acceptable or reversible impact
D	Unlikely	4	Local, reversible, short term (<3 months) impact
E	Rare	5	Local, reversible, short term (<1 month) impact

The risk levels for likely and potential impacts were derived using the following risk matrix.

Figure 44 – Risk Matrix

CONSEQUENCE	LIKELIHOOD A	B	C	D	E
1	High	High	Medium	Low	Very Low
2	High	High	Medium	Low	Very Low
3	Medium	Medium	Medium	Low	Very Low
4	Low	Low	Low	Low	Very Low
5	Very Low	Very Low	Very Low	Very Low	Very Low

The results of the environmental risk assessment for the proposed development are presented in Table 23 and are based upon the range of technical and specialist consultant reports appended to this EIS.

The table has directly related mitigation measures responding to each impact (satisfying the SEAR for a consolidated summary of all proposed mitigation measures) also based upon the range of technical and specialist consultant reports appended to this EIS.

It is considered that with the mitigation measures required the impacts resulting from the proposal will be acceptable.

Table 23 – Risk Assessment and Mitigation Measures

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
Transport and Accessibility	Impacts on the road network during construction	A	3	Medium	The following measures are proposed to reduce construction traffic impacts: • Limited contractor parking will be available in the Gate 4 Carpark; • A waiting zone for the loading of trucks will be established in the Gate 4 carpark adjacent to the hoarding outside of the student drop-off and pick-up times; • The shortest allowable return route for trucks will be taken • Large construction vehicles will be accommodated on site with access/egress associated with these vehicles via Gate 4. • No queuing or marshalling/parking will be permitted on public streets, unless otherwise approved. • Vehicles are to radio or call on approach to ensure adequate access to the site is made available. • All construction vehicles are required to enter and exit the site in a forward direction, unless otherwise approved. • No construction vehicle movements to/from the site will be permitted during school peak drop off and pick up times (i.e. between 8:00am and 9:30am and between 2:00pm and 4:30pm), unless otherwise approved.
	Impacts on the road network during operation	A	3	Medium	• It is recommended that the existing York Road-Queens Park Road intersection be upgraded as a seagull intersection to improve the existing and future operations of the intersection. • A slip lane at York Road-Baronga Avenue intersection could also significantly improve the intersection performance.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					• To manage the impacts associated with the proposal, the school will implement travel demand management measures to minimise its impact on the surrounding road network, including the: – provision of a green travel plan for the school – introduction of staggered arrival and departure times for each year group and ELC.
European Heritage	Adverse impact on the heritage significance of the locality	D	5	Very Low	No mitigation measures are required.
Aboriginal and Cultural Heritage	Adverse impact on the aboriginal and cultural heritage significance of the locality	C	3	Medium	• The applicant should continue to consult with the Aboriginal community in regard to the proposal; • A geomorphological assessment should be carried out to investigate the underlaying sand body to provide further information of the accumulation processes and inform the detailed Archaeological Research Design and Methodology. • An Archaeological Research Design and Methodology should be prepared for the sub-surface investigation of the identified landscape features and their potential for retaining Aboriginal objects and archaeological resources including: ○ Archaeological monitoring of the final demolition phases associated with the proposal, including the removal of the car park, pavements and slabs of standing structures; ○ Archaeological test excavation to confirm the presence or absence of Aboriginal objects and archaeological resources within the subject area. ○ Protocol for the handling of any Aboriginal objects and archaeological resources that might be uncovered during the monitoring and the archaeological test excavation.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					• The archaeological monitoring and test excavation should be undertaken according to the developed Archaeological Research Design and Methodology and with the participation of the nominated Aboriginal RAPs and appropriately qualified archaeologists. • The archaeological monitoring and test excavation should be designed to correspond the stages of the proposed development, including demolition and construction phases.
Ecologically Sustainable Development	The proposal will consume excessive resources, water, and energy.	C	3	Medium	Measures to minimise consumption of resources, water, and energy include: • A strong commitment to energy efficiency with the project design to demonstrate a 40% energy reduction over a standard construction building of its type; • A highly efficient façade system designed to minimise heat gain into the building while promoting the entry of daylight into classroom spaces; • Low impact materials selections with the project maximising the reuse of onsite materials and the use of certified materials where applicable; • The use of highly efficient water fixtures and fittings, alongside a waterless heat rejection system; • Integration of educational signage, wayfinding and monitoring systems across the site; and • An optimised air conditioning system to provide good provision of outside air while maintaining thermal comfort in the classroom areas.
Noise and Vibration	Noise generation during the construction and on-going operation of the proposal.	C	3	Medium	**Operational** • Usual design noise controls that may need to be implemented will typically include, but are not limited to:

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					○ Strategic location and selection of mechanical plant to ensure the cumulative noise levels at the receiver boundaries are met. ○ Selection of appropriate quiet plant. ○ Acoustic noise control measures to be put in place to minimise noise impacts such as: ▪ In-duct attenuation ▪ Noise enclosures as required ▪ Sound absorptive panels ▪ Acoustic louvres as required ▪ Noise barriers as required • It is anticipated that the noise impact to the nearest sensitive receivers will be negligible if following measures are implemented: ○ Low-powered horn-type speakers shall be located and orientated to provide a good coverage of the school areas whilst being directly away from residences and near sensitive receivers. System coverage shall be reviewed during the detailed design phase. ○ Speakers shall be mounted with a downward angle and as close to the floor as possible. ○ The noise level of the systems shall be adjusted on site so they will be clearly audible on the school site without being excessive. The systems shall initially be set so that the noise at nearby residences and sensitive receivers do not exceed noise level criteria.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					○ Once the appropriate noise level has been determined on site, the systems shall be limited to these noise levels so that staff cannot increase the noise levels. ○ The systems shall be set so that it only occurs on school days. • Glazing requirements and any lightweight building elements are to be confirmed once building setbacks and layouts have been finalised. **Construction** • The Contractor will be required to engage a qualified acoustic consultant to assist in the compilation of a Construction Noise and Vibration Management Plan, and undertake noise and vibration monitoring for the duration of the project. • It is recommended that noisy construction works will not be undertaken between 6am and 7am in order to minimise any sleep disturbance to the nearest residential receivers. • Complaints handling procedures should be adopted. • Schedule noisy activities to occur outside of the most sensitive times of the day for each nominated receiver. • Consider implementing equipment-specific screening or other noise control measures. • Limit the number of trucks on site at the commencement of site activities to the minimum required by the loading facilities on site. • When loading trucks, adopt best practice noise management strategies to avoid materials being dropped from height into dump trucks. • Avoid unnecessary idling of trucks and equipment.

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					• Ensure that any miscellaneous equipment (extraction fans, hand tools, etc) not specifically identified in this plan incorporates silencing/shielding equipment as required to meet the noise criteria. • Provide information to neighbours before and during construction. • Maximising the distance between noise activities and noise sensitive receivers. Strategically locate equipment and plant. • Employing quieter techniques for all high noise activities such as rock breaking, concrete sawing, and using power and pneumatic tools. • Using temporary site building and material stockpiles as noise barriers. These can often be created using site earthworks and may be included as a part of final landscape design. • Planning deliveries and access to the site to occur quietly and efficiently and organising parking only within designated areas located away from sensitive receivers.
Contamination	Risk to health and safety of works and future and existing occupants of the site	C	4	Low	A detailed soil assessment is to be undertaken at the site in accordance with recommended EPA sampling density to confirm the characterisation of potential contamination and to support management of materials during redevelopment. It is understood that this can be achieved following demolition of existing site buildings.
Light Spill	Light spill impacts to adjoining properties	C	4	Low	The following are proposed to reduce spill light on sensitive use areas: • Luminaires selected with appropriate distribution • Minimal upwards light • Minimisation of direct visibility of light sources • Cowling light sources where required • Intelligent lighting control equipment

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					• Consideration of sightlines to minimise threshold increment to oncoming traffic and pedestrians.
Stormwater Management	Sediment run-off from the site entering the stormwater system of surrounding streets.	C	4	Low	Common control measures adopted include: • Boundary fencing; • Stockpiling where appropriate; • Temporary sedimentation basin located within the downstream portion of the site; and • Truck washing facilities.
	Site stormwater runoff adversely impacts on stormwater flows and the water quality of the receiving waterways downstream of the site.	C	4	Low	• Stormwater conveyance and attenuation measures are proposed in accordance with Council requirements. • Stormwater quality measures are to be implemented to ensure that potential pollutants are suitable dealt with. • Surface runoff from the development sites will be directed to stormwater inlet structures using the design topography of these elements.
Flooding	Future students and staff are exposed to flood risk	D	5	Very Low	No mitigation measures required as the site is not flood prone.
Construction and Operation Waste	Disposal of waste generated during demolition and construction	D	3	Low	Wastes generated on the site during construction will be managed and minimised by a combination of waste planning initiatives and on-site controls. Waste planning initiatives will include: • Purchasing materials that will result in less waste, which have minimal packaging, are pre-cut or fabricated • Not over ordering products and materials • Identify all waste products that can be reused

Matter	Potential Impact	Likelihood	Consequence	Risk Level	Proposed Mitigation Measures
					• Put systems in place to separate and store reusable items • Identify the potential applications for reuse both onsite and offsite and facilitate reuse • Provide systems for separating and stockpiling of recyclables • Provide clear signage to ensure recyclable materials are separated • Process the material for recycling either onsite or offsite • Ensure the chosen waste disposal contractor complies with regulatory requirements • Implement regular collection of bins
	Disposal of waste generated during operation of the school	D	3	Low	Calculations for the types and quantities of waste that will be generated have been based on current waste generation for the College and comparisons with similar size schools as determined by audits conducted by Waste Audit. To manage the volumes, the following are provided: • General waste: 49 x 240 litre and 19 x 66 litre Mobile Garbage Bins • Commingled recycling: 68 x 240 litre Mobile Garbage Bins In addition, there is a 9.0 m3 skip bin for larger maintenance and other wastes. Waste collection is proposed via gate 4 and it to be undertaken prior to 7pm on collection days. All waste and recycling bins are to be transported from their locations within the campus to the Gate 4 car park. Waste management storage within the STEAM building is provided at the lower ground floor.

10. EVALUATION AND CONCLUSION

The proposed staged redevelopment of the Moriah College Senior School Campus will provide high quality, flexible indoor and outdoor spaces to suit contemporary teaching methodologies and technologies. The proposal will create a clear identity, entry, and shared student gathering space, as well as greater connectivity to the landscape and bushland setting. In addition, the proposal will result in a significant improvement in vehicle access and traffic movements in and around the site.

This SSDA seeks consent, pursuant to Section 4.22 of the EP&A Act, for the concept development of the southern portion of the campus, as well as the first stage of building works. The project seeks to:

- Re-orientate the High School Main Entrance away from the residential areas of Queen's Park. The High School Pedestrian Entrance will be at Gate 3 on Baronga Avenue and the Vehicular Entrance will be at Gate 4 on York Road, south.
- Provide an improved traffic management system with on-site Drop Off and Pick Up for the High School students and the Early Learning Centre entering from York Road (Gate 4).
- Provide enhanced visitor parking for after-hours School Community Events accessed from Gate 4, York Road.
- Provide a new contemporary learning facility in Stage 1 to replace existing building stock which is 25 years old. This facility will provide updated environments for Science, Technology, Engineering, Art and Mathematics (STEAM) and an Independent Learning Centre, including a new High School Library.
- Provide for the future development of a new Early Learning Centre (ELC) and college teaching rooms in Stage 2.
- Provide significantly improved external recreational areas for the school community, including additional landscaped areas with a focus on increasing the parkland setting of the campus.
- Enable the growth of student numbers to be developed in stages over a period of time.

The proposal has been assessed in accordance with the EP&A Act, as well as the items identified in the SEARs issued for the project. In summary, the assessment confirms:

- The proposal demonstrates a high level of consistency with state and local statutory and strategic planning policies.
- The proposal has been designed in accordance with relevant objectives and development controls listed in *State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017*, the *Waverly Local Environmental Plan 2012* and the Waverly Development Control Plan 2012.
- Subject to the mitigation measures recommended by the specialist consultants, the proposal will not have any unacceptable impacts on adjoining or surrounding properties or the public domain in terms of built form, social or environmental impacts.
- The proposal is highly suitable for the site, as it continues the established educational use of the site and provides state-of-the-art school facilities in line with modern day teaching practices for the benefit of current and future students. Further, there are no significant environmental constraints that would prevent the proposal from being delivered at the site. A visual impact assessment has been undertaken to accompany the EIS which concluded that existing vegetation will significantly frame or screen the proposal. Regardless, it is considered that the proposal will contribute to the visual quality of the locality.
- The proposal is in the public interest in that it will ensure more students have access to new state-of-the-art school facilities, including new indoor learning spaces and outdoor recreation spaces.
- The proposal has been designed to make a positive contribution to the overall built form of the site, having regard to the existing characteristic school campus and the landscaped setting in which the site is located.

- To manage the traffic impacts associated with the proposal, the School will implement travel demand management measures including the provision of a green travel plan and introduction of staggered arrival and departure times. With the implementation of these measures, as well as the proposed intersection upgrades, the vehicle trip generation of the proposed scheme would significantly be reduced such that it would be comparable with that generated by the approved school capacity. Thus, the surrounding key intersections would not be unreasonably affected by the proposed school expansion.

Considering the above and the content contained in this EIS, it is recommended that the DPIE approve this SSDA with appropriate standard conditions.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

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