



New Liverpool Primary School

State Significant Development Assessment SSD-10391

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Glossary

Abbreviation	Definition
ACHAR	Aboriginal Cultural Heritage Assessment Report
AEP	Annual Exceedance Probability
AHD	Australian Height Datum
ACH	Heritage NSW, Aboriginal Cultural Heritage
BCA	Building Code of Australia
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCD	Biodiversity and Conservation Division, Environment and Heritage
BDAR	Biodiversity Development Assessment Report
CDR	Civil Design Report
CIV	Capital Investment Value
Council	Liverpool City Council
COLA	Covered Outdoor Learning Area
CTPMP	Construction Traffic and Pedestrian Management Plan
DCP	Development Control Plan
Department	Department of Planning and Environment
Education SEPP	State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017
EFSG	Educational Facilities Standards and Guidelines
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPI	Environmental Planning Instrument
ESD	Ecologically Sustainable Development
FERP	Flood Emergency Response Plan

GANSW	Government Architect, NSW
HNSW	Heritage NSW, Environment and Heritage
LBHS	Liverpool Boys High School
LDCP	Liverpool Development Control Plan 2008
LLEP	Liverpool Local Environmental Plan 2008
LGHS	Liverpool Girls High School
Minister	Minister for Planning
NVIA	Noise and Vibration Impact Assessment Report
NLPS	New Liverpool Primary School
NSW Health	South Western Sydney Local Health District, NSW Health
PCT	Plant Community Type
Planning Secretary	Secretary of the Department of Planning and Environment
PMF	Probable Maximum Flood
RtS	Response to Submissions
SCA	Site Contamination Assessment
SDRP	State Design review Panel
SEARs	Planning Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
SES	State Emergency Services
SINSW	School Infrastructure New South Wales
SRD SEPP	State Environmental Planning Policy (State and Regional Development) 2011
SRtS	Supplementary RtS
SSD	State Significant Development
STP	Student Transport Plan
TfNSW	Transport for NSW
TAIA	Transport and Accessibility Impact Assessment Report

Executive Summary

This report provides an assessment of a State significant development (SSD) application for the development of the New Liverpool Primary School located at 18 Forbes Street, Liverpool. The application has been lodged by the NSW Department of Education (the Applicant) and the site is located within the City of Liverpool local government area (LGA).

Assessment summary and conclusions

The Department of Planning and Environment (the Department) has considered the merits of the proposal in accordance with relevant matters under section 4.15(1), the objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act), the principles of ecologically sustainable development, and issues raised in all submissions as well as the Applicant's response to these.

The key issues identified with the proposal include flooding, traffic, and transport, built form and urban design, and open space and preschool. The Department is satisfied that these issues have been adequately addressed in the Applicant's Environmental Impact Statement (EIS), Response to Submissions (RtS) and Supplementary RtS (SRTS). The residual outstanding issues can be addressed through the Department's recommended conditions of consent.

The key outstanding issue in relation to this proposal is flooding. The Applicant has demonstrated that the risks from flooding would be appropriately addressed through the implementation of a flood emergency management plan, which has been submitted with the application. The residual impacts in relation to flood evacuation can be managed through further consultation with Government agencies and the preparation of an updated emergency response plan incorporating the details of the consultation as well as providing details of evacuation instead of the currently proposed shelter-in-place strategy. The Department has consulted with State Emergency Services (SES) in this regard and received advice regarding relevant evacuation triggers and routes to ensure that the school is closed well in advance of the flood events.

The Department concludes that subject to implementation of recommended conditions including the requirement for the finalisation of the emergency management plan in consultation with SES, the proposal is in the public interest and recommends that the application be approved subject to conditions.

The proposal

The proposal is for the construction and operation of a new primary school for 1200 students, 40 support unit students and a preschool with 40 children.

The proposal comprises the construction of two buildings (two – three storey) comprising core school facilities, teaching spaces and support units. The proposal also includes removal of two dead trees, open space improvements and associated landscaping and school signage.

The proposal has a capital investment value (CIV) of \$44.5 million and would generate approximately 98 operational jobs and 400 construction jobs.

The Applicant has sought approval of a range of works outside and within the site, under Part 5 of the EP&A Act. These include, widening of an adjoining road (Burnside Drive) and a roundabout, provision

of staff car parking, waste collection areas, drop-off/pick-up zones, open space improvements and cycling infrastructure. The delivery and operation of the school is reliant on the timely conclusion and delivery of these works.

The site

The property is located at 18 Forbes Street, Liverpool and legally known as Lot 1 within DP 1137425. The property currently accommodates two high schools on the western side (Liverpool Boys and Girls High Schools) and associated open space on the eastern side with frontages to Lachlan Street (north), Forbes Street (west), Burnside Drive (east) and Liverpool hospital (south).

The site (for the purpose of this SSD application) comprises the eastern portion of the property, is vacant with an area of 1.9 hectares and adjoins Burnside Drive and Lachlan Street.

The site is located approximately 27 kilometres south west of the Sydney Central Business District (CBD) and approximately 700 metres north-east of the centre of the Liverpool CBD. The site is well connected to a range of public transport options including the southern railways.

Statutory context

The proposal is SSD under section 4.36 of the EP&A Act as the development is for the purpose of a new school under clause 15 of Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011, as was in force at the time of lodgement of the application. Therefore, the Minister for Planning is the consent authority.

Engagement

The application was publicly exhibited between 29 June 2021 and 26 July 2021. The Department received a total of 10 submissions, including one submission (comment) from Liverpool City Council (Council) and nine advice from Government agencies. The key issues raised in the submissions include traffic, transport, built form, open space and flooding.

On 12 November 2021, the Applicant submitted a Response to Submissions (RtS) which included amended architectural drawings, landscape plans and updated reports to address the concerns raised by Liverpool City Council and Government agencies. No substantial design changes were made to the proposal. The Department received nine Government agencies and one submission from Council, in response to the RtS.

Based on the comments from Council and Government agencies, the Department consulted with the Applicant and as a result supplementary RtS were received on 23 December 2021, 17 February 2022, 30 March 2022 and 21 April 2022.

The Applicant responded to concerns raised by Government agencies and Council in relation to flooding impacts, built form, traffic, and open space.

The Government agencies or Council have raised no further concerns regarding the development. State Emergency Service NSW reviewed the updated emergency management plan and raised some concerns regarding the proposed flood response strategy. The Department has consulted with the Applicant further in this regard and recommended additional conditions to address the concerns raised by SES.

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1 Introduction

This report provides an assessment of a State significant development (SSD) application for the development of the New Liverpool Primary School located at 18 Forbes Street, Liverpool.

The proposal seeks approval for the construction and operation of a new primary school along with a preschool, improvements to open space and associated landscaping works. The development would have a capacity for 1280 students, comprised of 1240 primary school students (including 40 special support unit students) and 40 preschool students.

The application has been lodged by NSW Department of Education (the Applicant). The site is located within the Liverpool City Council local government area (LGA).

1.1 Site description

The site comprises the eastern portion of a large block of land (the campus) at 18 Forbes Street, Liverpool, within the Liverpool CBD, legally described as Lot 1 DP 1137425. The campus is located approximately 0.7 kilometres (km) north east of Liverpool train station, 0.4km south west of Warwick farm train station and 27km south-west of the Sydney CBD (**Figure 1**).

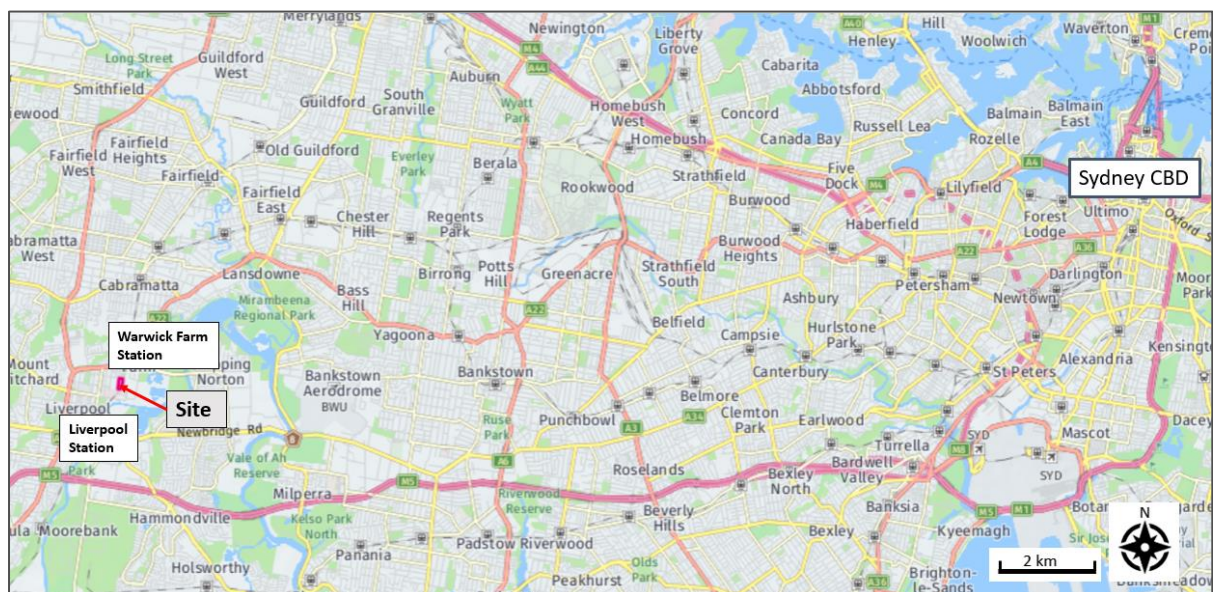


Figure 1 | Regional context map (Source: Nearmap 2022)

The campus has an overall area of 7.5 hectares (ha) and currently accommodates the Liverpool Boys High School (LBHS) and the Liverpool Girls High School (LGHS) on the western portion with access from Forbes Street. Both the high school campuses include a variety of two storey buildings with associated parking and play areas.

Currently the LBHS and LGHS accommodate 1500 students with a large playground area located to the east of the campus. The campus has frontages to:

- Lachlan Street to the north (approximately 294m).
- Burnside Drive to the east (approximately 242m).
- Forbes Street to the east.

- South Western Sydney health precinct (Liverpool hospital) to its south.

The proposed development for the New Liverpool Primary School (NLPS), would be located on the eastern portion of the campus occupying a section of the current playground fronting Burnside Drive. This section is referred to as the “site” in this report and identified in **Figure 2**, in the context of the existing developments within the campus.

The site is currently vacant, has an area of approximately 1.9ha and is irregular in shape with two street frontages to Lachlan Street (north) and Burnside Drive (east).

The site slopes from the north western corner near Lachlan Street (RL10) to about RL9 at the south eastern corner. The site comprises flood prone land and includes native vegetation.

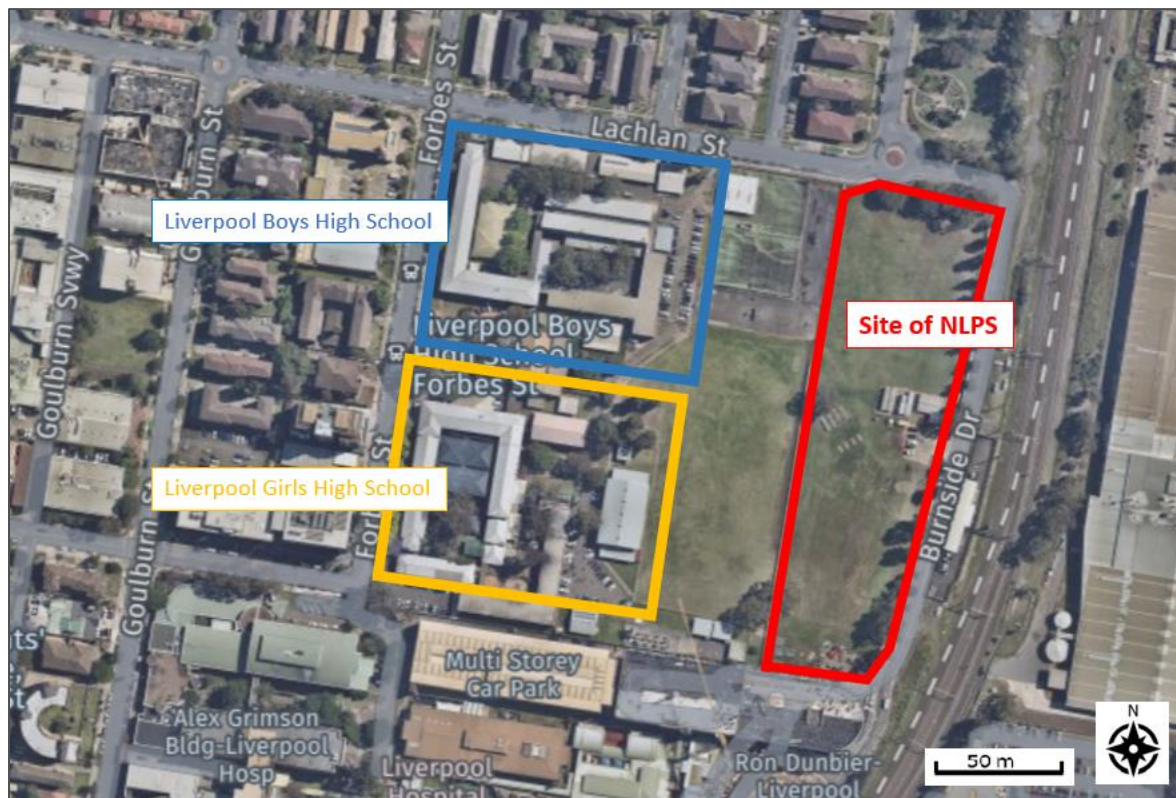


Figure 2 | Local site context and existing structures (Source: Nearmap 2022)

1.2 Surrounding developments

1.2.1 Surrounding built form

The site and the education broader campus are located within a mixed-use area within Liverpool CBD, with a variety of land uses and building types adjoining the site as discussed below and identified in **Figure 3**.

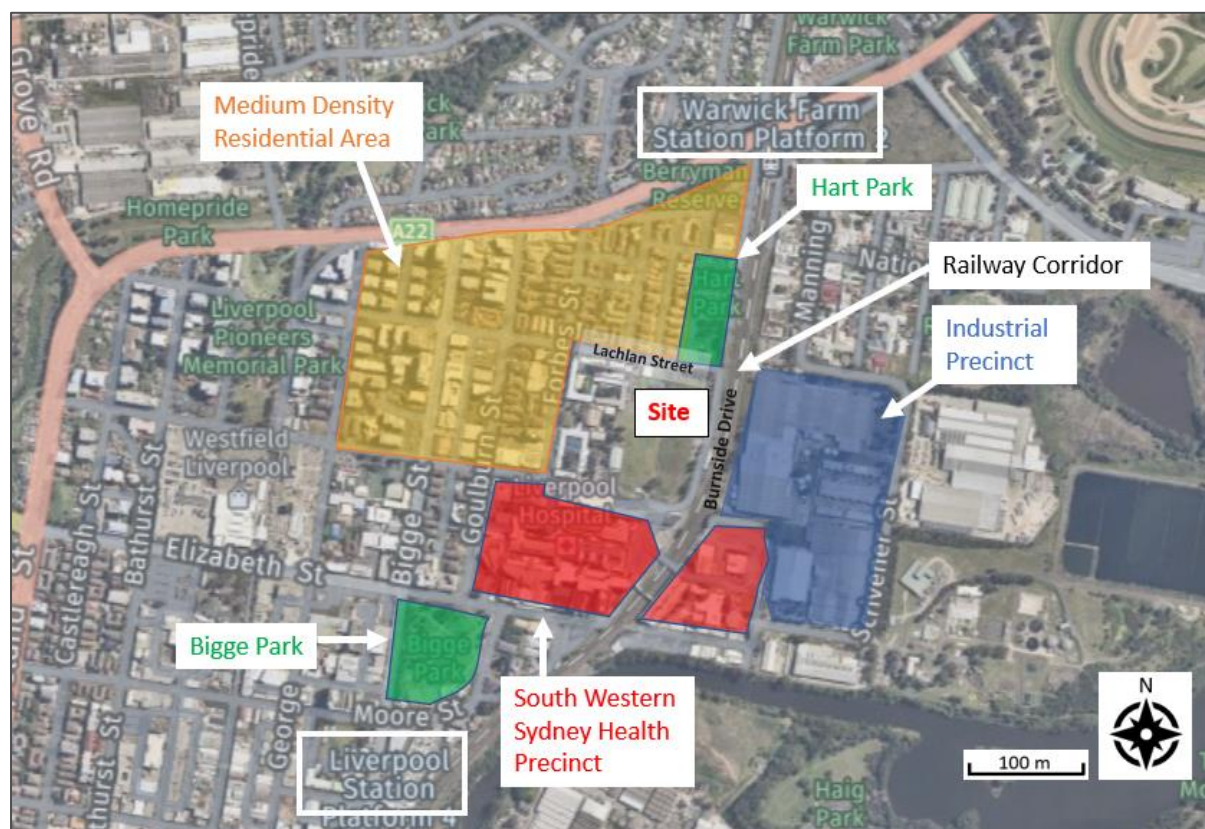


Figure 3 | Surrounding development (Source: Nearmap 2022)

Northern Side

A medium density residential area is located to the north of Lachlan Street, near the site, comprising mostly three storey apartment buildings of various styles. An open space area, Hart Park is located to the north-east of the site, which includes picnic areas and a playground. The Warwick Farm train station is located to the north of Hart Park.

Eastern Side

The site fronts Burnside Drive to its east, which adjoins the main Southern railway corridor. Across the railway line, to the east, is an industrial precinct.

Southern Side

The site adjoins the South Western Sydney health precinct to its south, accommodating the Liverpool hospital, car parking and associated facilities (Liverpool hospital site). Burnside Drive is a crown road under the care and control on NSW Health, which ends in a cul-de-sac within the precinct as identified in **Figure 3**. The Liverpool hospital site spans across both side of the railway corridor.

The TAFE Liverpool site adjoins the Liverpool hospital site to its south (on the western side of the railway corridor).

Georges River abuts the southern boundary of the Liverpool hospital site, on the eastern side of the railway corridor.

The site is also located in close proximity to Liverpool train station on the southern side.

Western Side

The LHBS and LGHS adjoin the western portion of the site. Medium density residential developments are located further to the west along with other medical and health related facilities.

1.2.2 Existing public transport

Train Service

The site is located in between the Warwick Farm train station and Liverpool train station. Both stations are located within walking distance of the proposed NLPS.

Liverpool and Warwick Farm stations are located on the T2 Inner West and Leppington, T3 Bankstown and T5 Cumberland train lines, which provide services to the City and Richmond Area every 10 minutes during peak and 30 minutes during the off-peak period.

Bus Service

There are multiple bus services that operate near the site with the nearest stop located adjoining the LBHS on Forbes Street. The surrounding bus network services are detailed in **Figure 4**.

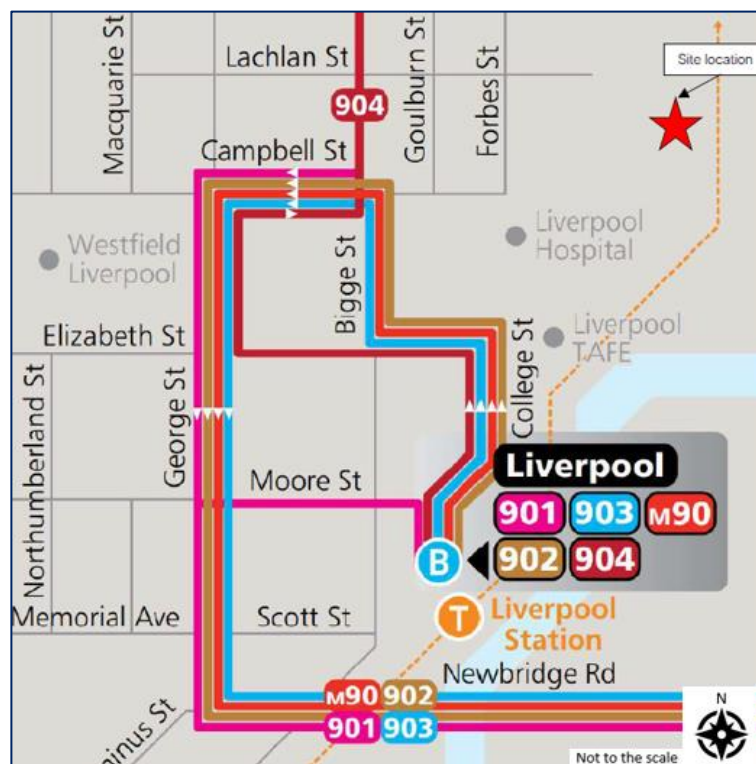


Figure 4 | Surrounding bus network (Source: Applicant's EIS 2021)

Existing Pedestrian Facilities

The site is in close proximity to other development within Liverpool CBD within a zone of high pedestrian traffic. Forbes Street, Goulburn Street and Lachlan Street have a range of crossing facilities, being signalised pedestrian crossings, pedestrian crossings, and refuge islands. All nearby intersections include kerb ramps at each approach. The western approach of the Lachlan Street to Drummond Street and Hart Street do not have pedestrian crossing facilities.

Existing 30 km/h school zones and 30 km/hour high pedestrian activity zones are present near the site (discussed in **Section 6.2**).

2 Proposal

The key components and features of the proposal as detailed in the Environmental Impact Statement (EIS) and amended in the Response to Submissions (RtS) and supplementary RtSs (SRtSs) are provided in **Table 1** and identified in **Figure 5 – Figure 17**.

Table 1 | Main components of the proposal

Aspect	Description
Project summary	Construction and operation of the New Liverpool Primary School (NLPS) involving two new buildings accommodating 1240 school students and 40 preschool students along with associated landscaping, playground areas and tree removal.
Site area	19,864 sqm (m²).
Built form	- Construction of two new buildings (two – three storeys) with connecting walkways at each level, including: - a C-shaped three storey building accommodating the following: - office/administration areas. - teaching and learning areas (home bases/classrooms). - special support program unit homebased. - a pre-school (age group 3 – 5 years). - library. - lifts and stairs for circulation. - a two-storey building at the north-eastern corner accommodating the multi-purpose hall, out-of-school-hours care (OOSH), offices and canteen. - Covered Outdoor Learning Area (COLA). - Hard and soft play areas. - An oval to the south of the buildings.
Gross floor area (GFA)	- Total: 8180m² including: - primary School: 7095.03m². - support unit: 419.47m². - pre-school: 294.5m². - multi-purpose hall: 371m².
Overall height	14m.
Uses	School and childcare centre.
Bicycle parking	60 students, staff, and visitors bicycle spaces.
Public domain and landscaping	- Removal of one tree. - Landscaping including planting of 110 new native trees.

Aspect	Description
Hours of operation	• School hours: 9am – 3:10pm, Monday to Friday. • Pre-school: 7am to 6pm (Monday to Friday). • OOSH: 6.30am to 9am and 6.10am to 6.30pm (Monday to Friday). • Community uses 6pm to 9pm (weekdays and weekends).
Signage	• Three new signs including: ○ a front entry sign on Lachlan Street. ○ a side entry information sign at the corner of Burnside Drive and Lachlan Street. ○ a sign on the Burnside Drive entry.
Jobs	• 400 construction jobs and 98 operational jobs.
Capital Investment Value (CIV)	• 44.5 million.

2.1 Physical layout and design

2.1.1 Site layout

The proposed buildings have been arranged in a C-shape across the northern section of the site. The proposed physical layout ensures separation between the primary school and high schools, with NLPS orientated to face east, away from the high schools to the west.

As discussed in **Table 1**, the primary school building includes three components to the north, west and south, connected by walkways at each level. The multi-purpose hall is located at the north-eastern corner and separated from the school building. The main entry to NLPS site would be located on the Lachlan Street frontage, in between the school building and the multi-purpose hall.

There are established trees along the Lachlan Street frontage, proposed to be retained with the building setback being 6m from the public footpath, creating a shaded space at the front of the school. After school hours entry is also proposed from Lachlan Street with controlled access to the multi-purpose hall, canteen, OOSH, library and special program areas on level 1.

The main student access (including preschool and support unit) is nominated via Burnside Drive. The Applicant proposes upgrades to Burnside Drive with the provision of a drop-off/pick-up area on this frontage under a separate planning pathway (discussed later).

A COLA is proposed to be located to the south of the multi-purpose hall building, adjoining a hard-surface play area fronting Burnside Drive. Pockets of landscaped areas with yarning circles and vegetable gardens are also proposed at the ground level in proximity to the school building. A dedicated play area for the preschool is proposed to be located immediately to the south of the school building.

The main play area/oval for the NLPS would be located on the southern side of the site. A waste collection area and staff parking area with access from Burnside Drive are proposed in this part of the site. However, approval for these works is sought under a separate planning pathway and do not form part of the SSD application.

The site layout along with works on Burnside Drive and car parking areas are identified in **Figure 5**.

The general arrangement of the buildings is identified in **Figure 6**, a photomontage of the Burnside Drive entry is provided in **Figure 7** and a 3D view of the buildings is provided in Figure 8.

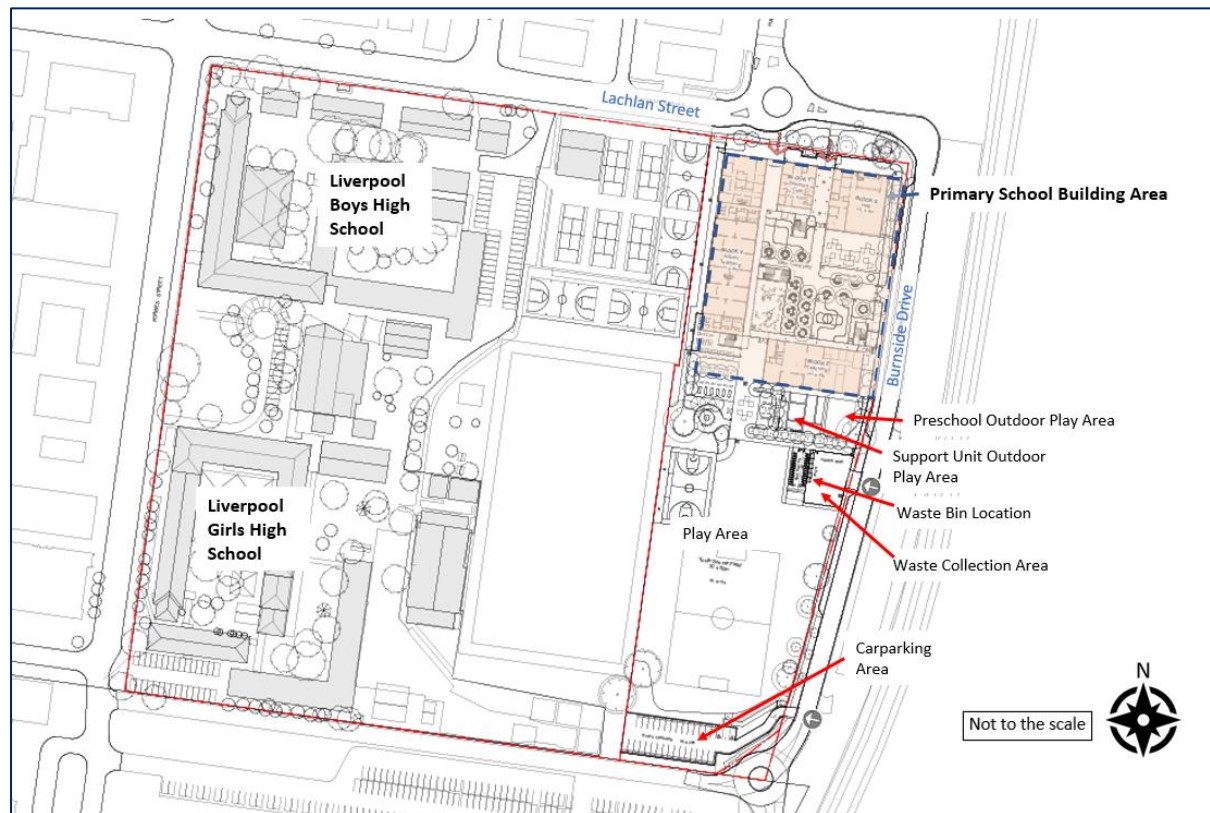


Figure 5 | Site layout (Source: Applicant's SRtS 2021)

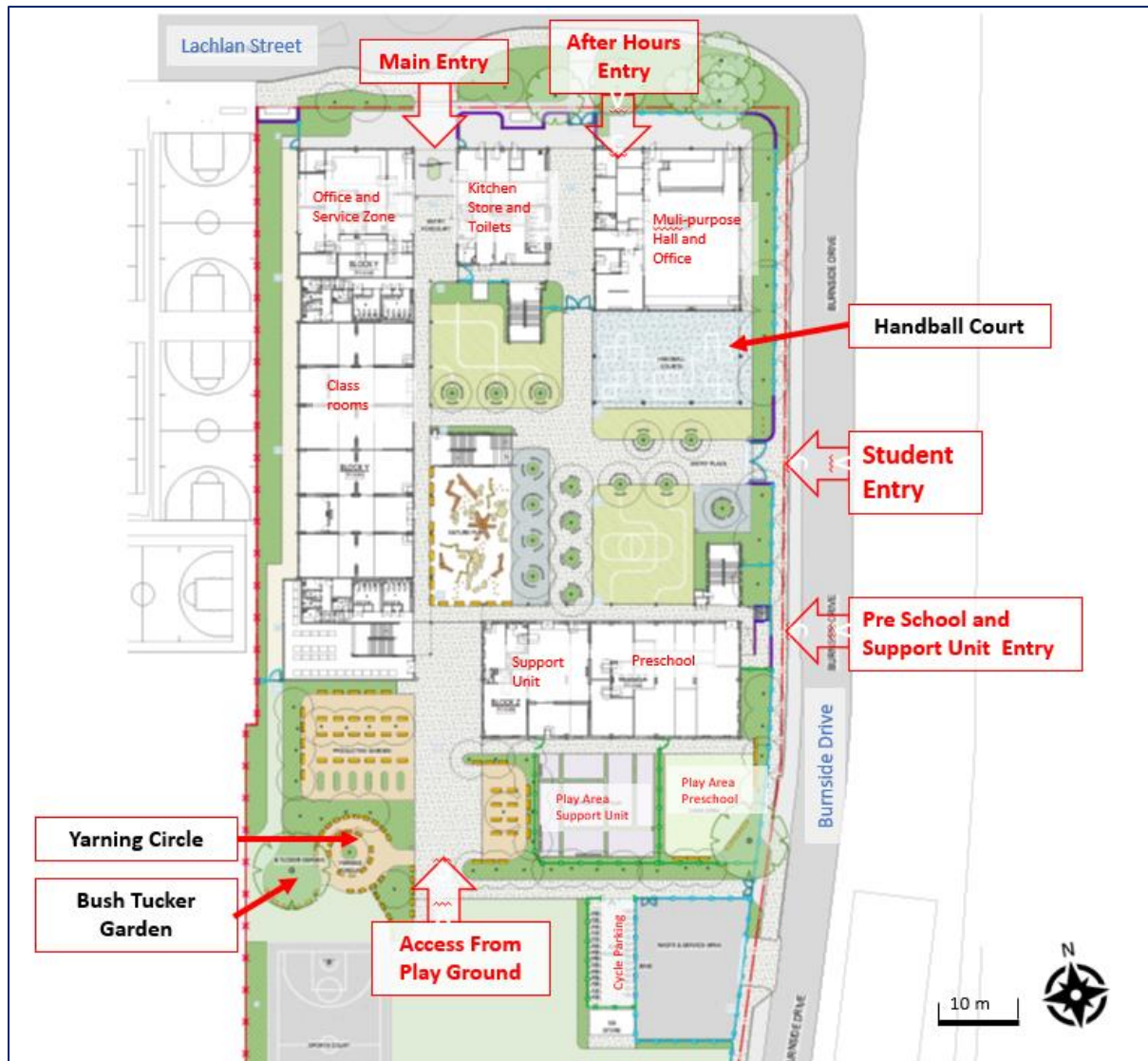


Figure 6 | Landscape area and site access (Source: Applicant's SRtS 2021)



Figure 7 | Photomontage of main entrance at Burnside Drive (Source: Applicant's EIS 2021)



Figure 8 | 3D View of the buildings on the site (Source: Applicant's EIS 2021)

2.1.2 Primary school building

The proposed new primary school building is designed to be three-storeys in height, with a maximum building height of 14m.

The building would have a setback of 6m from Lachlan Street, 5.5-7m from Burnside Drive and 6m from the LBHS playing fields/open space to the west. These setbacks are provided to recess the built form from the street and provide separation from the other schools on the site.

The ground floor of the primary school building would accommodate the administration areas to the north, homebases within the longitudinal section, the special support unit and preschool to the south and associated amenities. The special support unit and preschool would have direct access from Burnside Drive and in general all homebases would have at-grade access to the COLA and play areas.

The double-height library is proposed to be located on the first floor with a northern aspect fronting Lachlan Street. The remaining section of the first floor would accommodate homebases and special program areas.

The second floor would accommodate homebases and the void area with the library below (northern side).

The homebases and other services at each level would be connected via shaded walkways with vertical circulation provided via lifts and stairs.

The proposal does not seek approval for the detailed internal fit-out of the preschool component. Therefore, no details of the internal layout for this section of the building have been provided.

The Applicant advises that the external materials and finishes for proposed buildings would be brick, fibre cement panels and metal sunshades.

2.1.3 Multi-purpose hall

The proposed multi-purpose hall, canteen, and other administrative areas for the OOSH would be accommodated within a two-storey building at the north eastern corner of the site with direct access from both Burnside Drive and Lachlan Street. The building is integrated with the primary school building and the open spaces with the COLA immediately adjoining this building. The typical floor plans of the primary school and the multi-purpose hall along with elevations are provided in **Figures 9 - 17**.

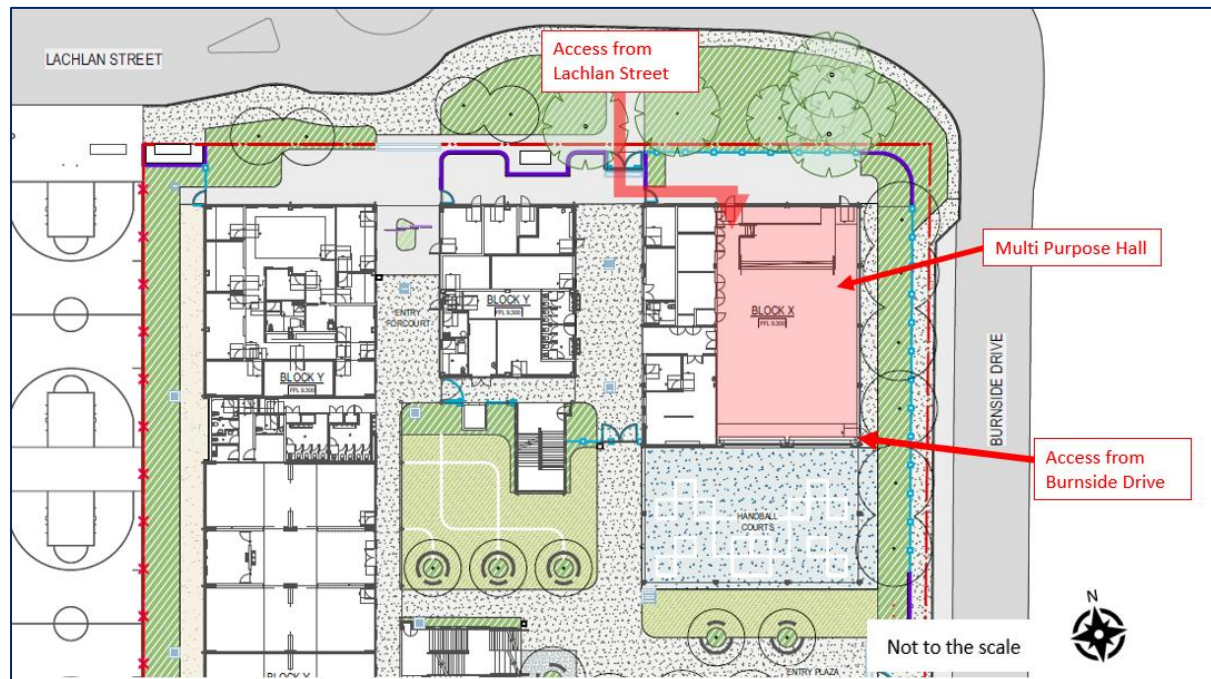


Figure 9 | Multi-purpose hall (Source: Applicant's SRtS 2021)

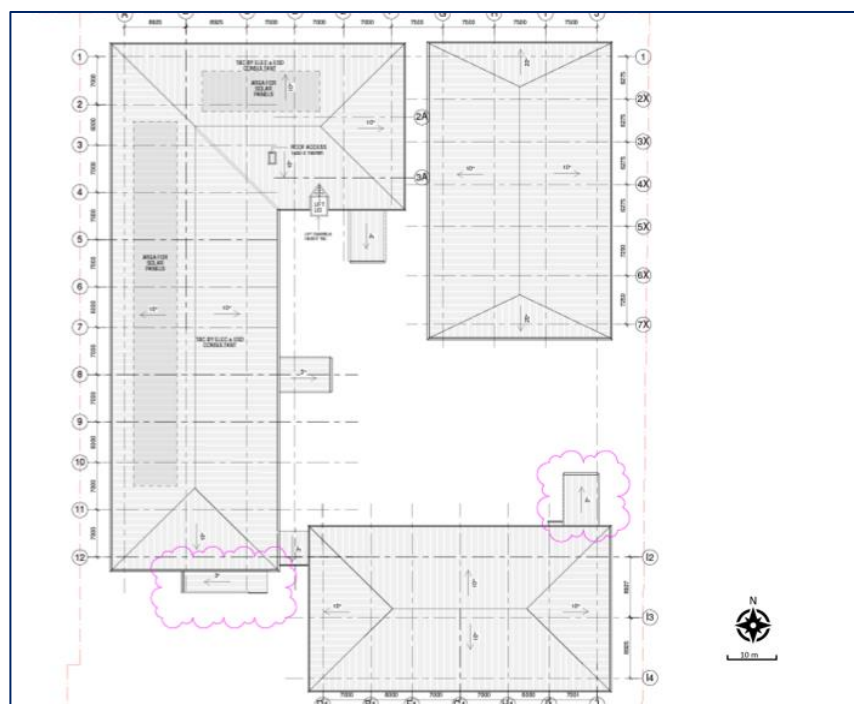


Figure 10 | Roof plan (Source: Applicant's SRtS 2021)

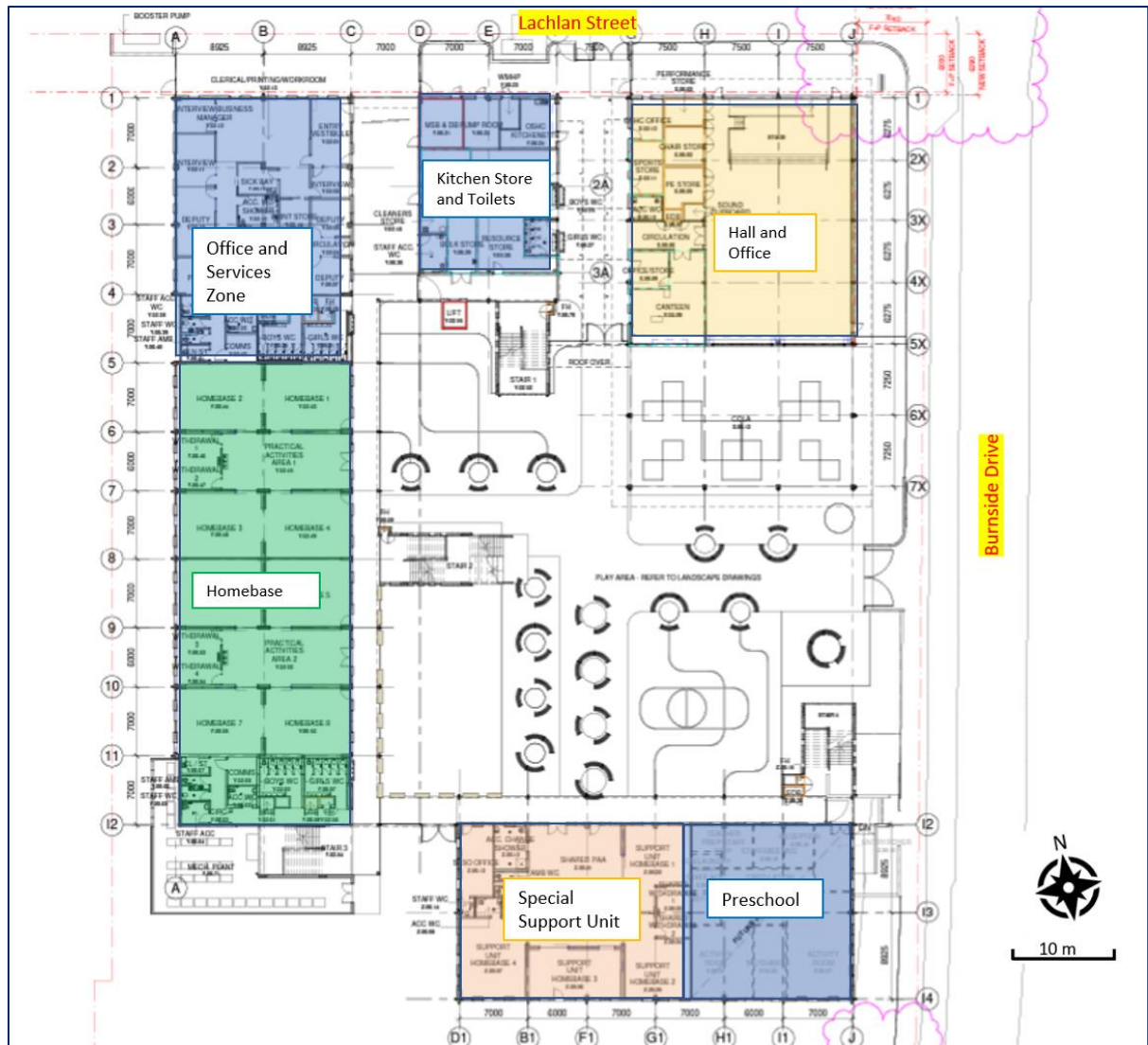
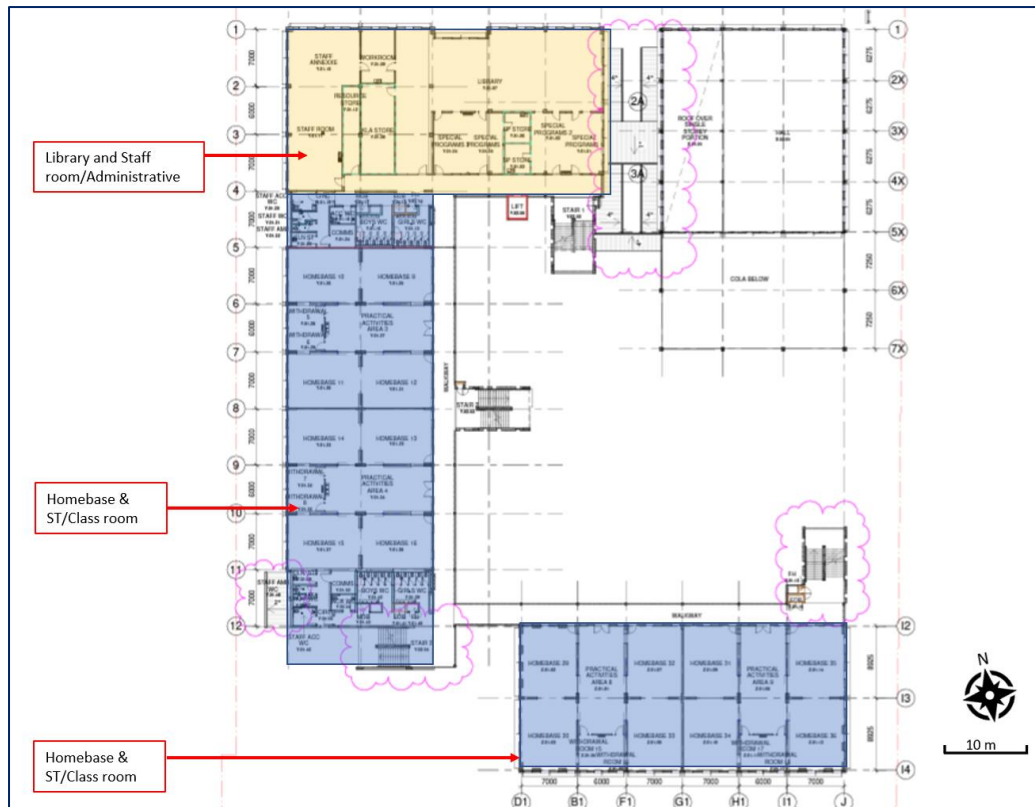


Figure 11 | Ground floor plan (Source: Applicant's SRtS 2021)



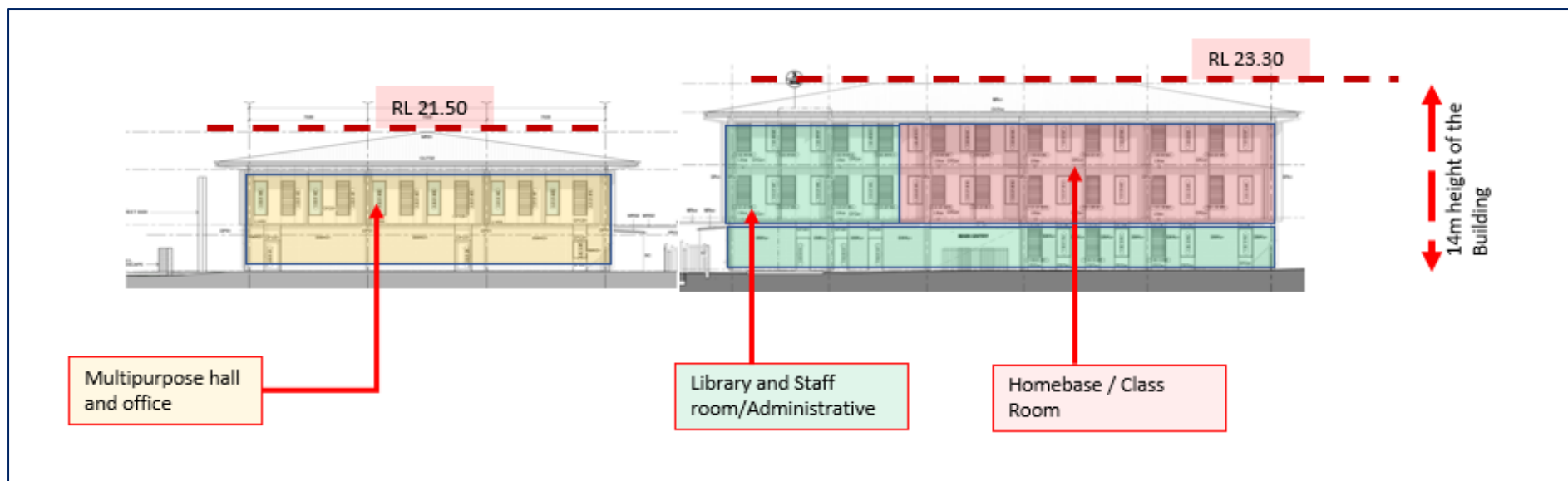


Figure 14 | North elevation-Lachlan Street (Source: Applicant's SRtS 2021)

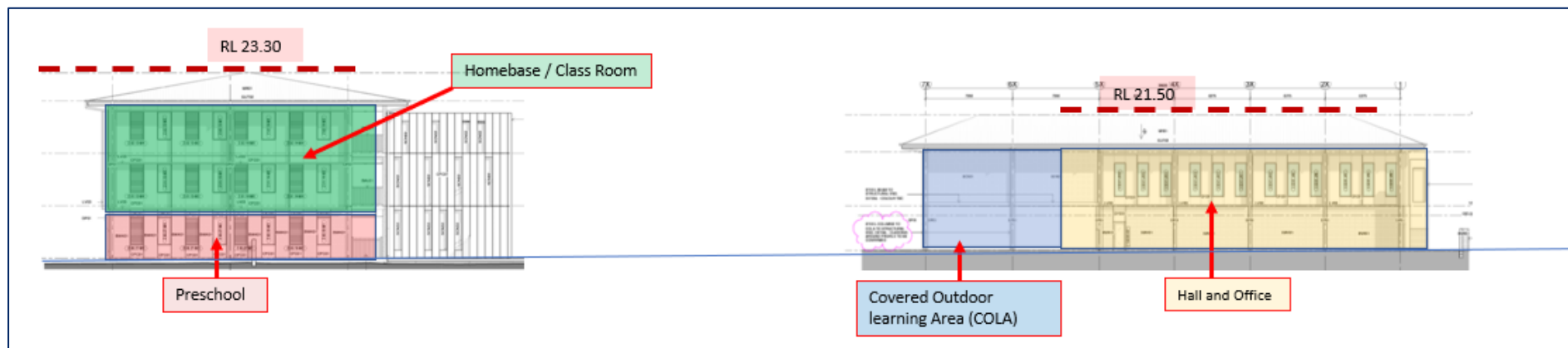


Figure 15 | East elevation-Burnside Drive (Source: Applicant's SRtS 2021)

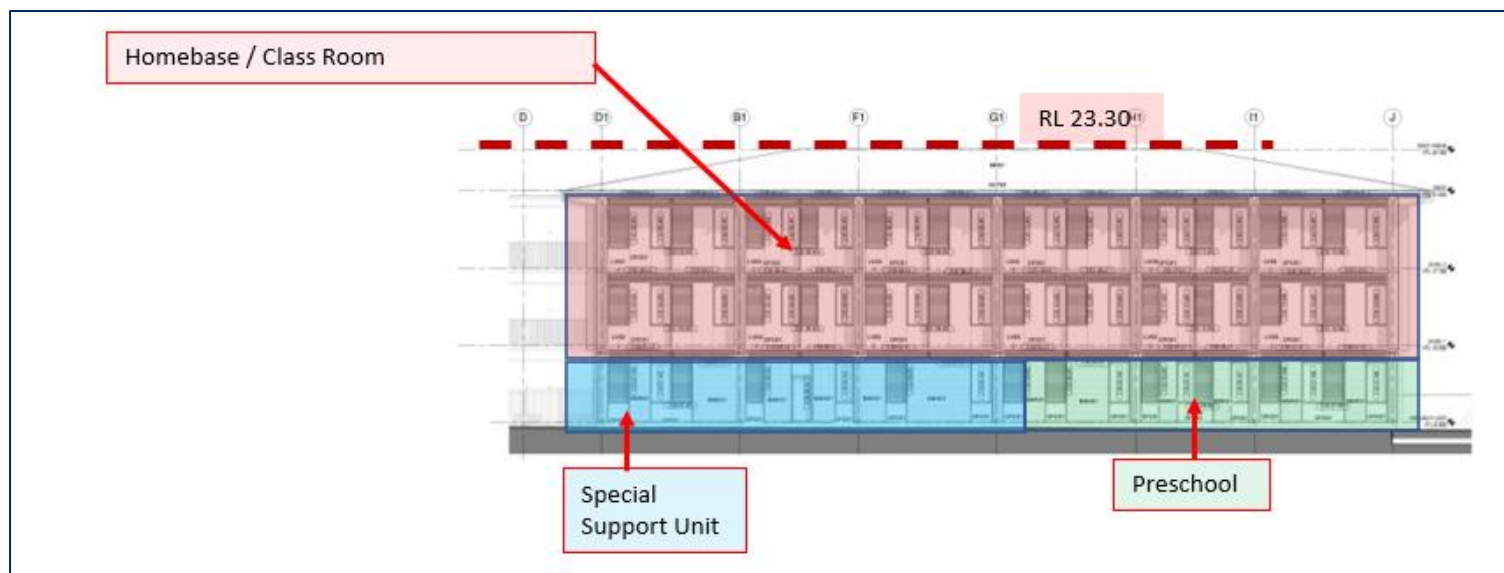


Figure 16 | South elevation (Source: Applicant's SRtS 2021)

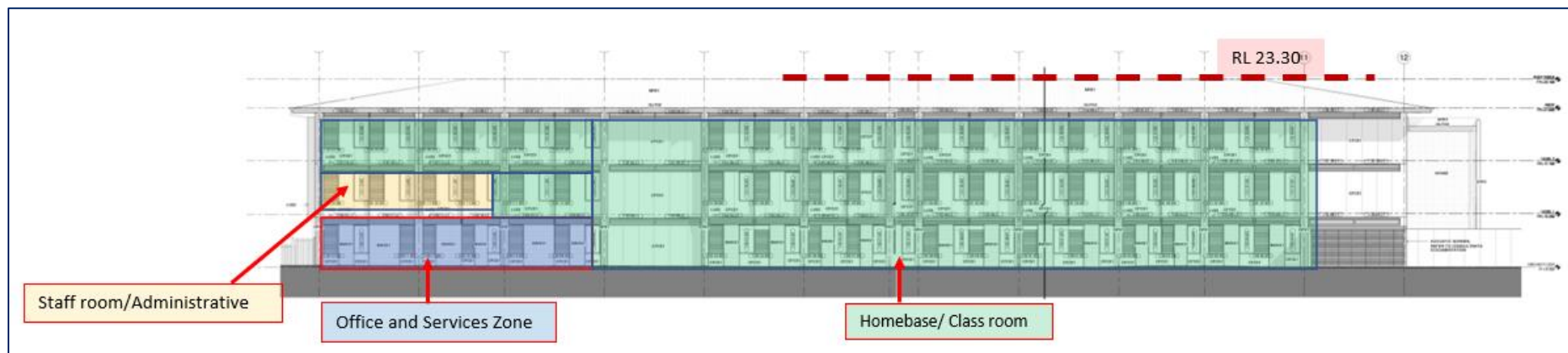


Figure 17 | West elevation (Source: Applicant's SRtS 2021)

2.2 Uses and activities

The proposed NLPS would accommodate a total of 1280 students including:

- 1200 primary school students.
- 40 school students in the special support unit.
- 40 preschool students (3 – 5 age group).

The activities within the site would comprise core school activities, OOSH and additional activities after school. The operating hours are provided in **Table 1**.

The Applicant advises that three schools in the campus would share a large portion of open space and sports fields. The school hall and sports fields would also be used by local community groups. It is anticipated that these uses will occur several times a week outside core school hours.

2.3 Timing of construction

The construction of the proposed school would be undertaken in one stage. It is anticipated that construction will occur over the duration of 10 months.

2.4 Related development

2.4.1 Works outside the scope of the SSD application

The Applicant advises that the following works are to be carried out under the provisions of exempt development under Part 5 of *Environmental Planning and Assessment Act 1979* (EP&A Act), as relevant at the time of lodgement.

- a new roundabout at the southern end of Burnside Drive.
- road widening of Burnside Drive by 2.5m, inclusion of a 2.5m wide footpath and parking bays to accommodate 25 spaces along the school frontage comprising the drop-off/pick-up area.
- tree removal and a pad mount substation on the Lachlan Street frontage.
- relocation of existing street lighting and associated electricity infrastructure works.
- 33 car parking spaces within a new staff car park located on the southern side of the site.
- a waste collection area with direct access from Burnside Drive.
- cycling infrastructure

2.4.2 Liverpool hospital redevelopment

The Liverpool hospital redevelopment is the most significant development in the immediate vicinity of the site. SSD-10389 and SSD-10388 were approved in 2020 by the Department, for the construction and operation of an Integrated Services Building and associated refurbishment works on the Liverpool hospital site directly to the south of the proposed NLPS.

3 Strategic context

It is anticipated that there would be a 21% growth in student numbers in NSW by 2031 compared to 2017. This means that NSW schools would need to accommodate an extra 269,000 students, with 164,000 of these students in the public system. In response to the need for additional public education infrastructure because of increased demand, the NSW Department of Education is investing \$6.7 billion to deliver new schools and upgrade existing schools.

The Department considers the proposal is appropriate for the site as it is consistent with:

- NSW State Priorities, through the provision of new and improved teaching and education facilities.
- Greater Sydney Commission's (GSC) Greater Sydney Region Plan: A Metropolis of Three Cities, as it proposes upgraded school facilities to meet the growing needs of Sydney.
- Greater Sydney Commission's South District Plan, as it would provide much needed school infrastructure and provide opportunities to co-share facilities with the local community.
- Transport for NSW's Future Transport Strategy 2056, as it would provide a new educational facility generating additional employment opportunities close to public transport accessible by staff and provide improvements to pedestrian connectivity to the site.
- Infrastructure NSW's State Infrastructure Strategy 2018 – 2038 Building the Momentum as it proposes:
 - facilities to support the growth in demand for primary student enrolments within the school catchment.
 - a school design to accommodate infrastructure and facilities sharing with communities.
- Liverpool City Council's Local Strategic Planning Statement "Connected Liverpool 2050", as it would increase the number of school places provided in the local government area, enable future use of the new school facilities by the community and encourage sustainable transport modes.

The proposal would also provide direct investment in the region of approximately \$44.5 million and support 400 construction jobs and 98 new operational jobs.

3.1 Liverpool Innovation Precinct plan

The site is located within a 'Collaboration Area' as per the Western Sydney District Plan. While there are no direct statutory planning implications of these plans beyond the existing land use zoning, the site has been strategically identified as a potential opportunity site to deliver an integrated health and school facilities which promote focus on health and wellbeing to support the students, their families and the broader community.

4 Statutory Context

4.1 State significance

The proposal is SSD under section 4.36 (development declared SSD) of the EP&A Act as the development is for the purpose of a new school with a CIV in excess of \$20 million under Schedule 1, Clause 15 (1) of the State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)), as applicable at the time of lodgement.

The Minister for Planning (the Minister) is the consent authority under section 4.5 of the EP&A Act. In accordance with the Minister's delegation to determine SSD applications, signed on 9 March 2022, functions under the SRD SEPP (clause no 8(2) and 14 (2)), the Director, Social and Infrastructure Assessments may determine this application as:

- the relevant Council has not made an objection.
- there are no public submissions in the nature of objection.
- a political disclosure statement has not been made.

4.2 Permissibility

The site is identified as being located within the SP2 Health Services Facility and Educational Establishment zone under the Liverpool Local Environmental Plan 2008 (LLEP). Education establishments are permissible with consent within the zone. Therefore, the Minister for Planning or a delegate may determine the carrying out of the development.

4.3 Other approvals

Under section 4.41 of the EP&A Act, several other approvals are integrated into the SSD approval process, and consequently are not required to be separately obtained for the proposal.

Under section 4.42 of the EP&A Act, further approvals are required, but must be substantially consistent with any development consent for the proposal (e.g., approvals for any works under the Roads Act 1993 or as discussed in **Section 2.4**).

The Department has consulted with Council and relevant Government agencies responsible for integrated and other approvals, considered their advice in its assessment of the project, and included suitable conditions in the recommended conditions of consent (see **Appendix E**).

4.4 Mandatory Matters for Consideration

4.4.1 Environmental planning instruments

Under section 4.15 of the EP&A Act, the consent authority is required to take into consideration any environmental planning instrument (EPI) that is of relevance to the development the subject of the development application. Therefore, the assessment report must include a copy of, or reference to, the provisions of any EPIs that substantially govern the project and that have been considered in the assessment of the project.

Since submission of the EIS, all NSW State EPIs have been consolidated into 11 policies. The consolidated SEPPs commenced on 1 March 2022, with the exception of State Environmental Planning Policy (Housing) 2021, which commenced on 26 November 2021.

The SEPP consolidation does not change the legal effect of the repealed SEPPs, as the provisions of these SEPPs have simply been transferred into the new SEPPs. Further, any reference to a previous SEPP is taken to mean the same as the new SEPP. For consistency, the Department has considered the development against the relevant provisions of the SEPPs that were in force when the EIS submitted.

The Department has undertaken a detailed assessment of these EPIs in **Appendix B** and is satisfied the application is consistent with the requirements of the EPIs.

4.4.2 Objects of the EP&A Act

The objects of the EP&A Act are the underpinning principles upon which the assessment is conducted. The statutory powers in the EP&A Act (such as the power to grant consent) are to be understood as powers to advance the objects of the legislation, and limits on those powers are set by reference to those objects. Therefore, in making an assessment, the objects should be considered to the extent they are relevant. A response to the objects of the EP&A Act is provided at **Table 2**.

Table 2 | Response to the objects of section 1.3 of the EP&A Act

Objects of the EP&A Act	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 site is suitable for continued use as an educational establishment. The development would not have an unreasonable negative impact on the economic welfare of the community, or the natural environment.
(b) to facilitate ecologically sustainable development by integrating relevant economic, environmental and social considerations in decision-making about environmental planning and assessment,	The proposal includes measures to deliver ecologically sustainable development (ESD) (Section 0).
(c) to promote the orderly and economic use and development of land,	The proposal is an orderly and economic development and use of the land as it is consistent with the sites' historic and current use as an educational establishment and would improve educational facilities to support demand.
(d) to promote the delivery and maintenance of affordable housing,	Not applicable.
(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,	The proposal would protect the environment, as detailed in the report. Error! Reference source not found.

Objects of the EP&A Act	Consideration
(f) to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage),	The applicant submitted an Aboriginal Cultural Heritage Assessment Report as part of the EIS which identifies the Aboriginal cultural heritage values of the sites in consultation with Aboriginal communities and sets out appropriate mitigation measures to protect these values.
(g) to promote good design and amenity of the built environment,	The proposal would promote good design and amenity of the built environment (Section 6.3).
(h) to promote the proper construction and maintenance of buildings, including the protection of the health and safety of their occupants,	The proposal would promote proper construction and maintenance of buildings subject to recommended conditions of consent.
(i) to promote the sharing of the responsibility for environmental planning and assessment between the different levels of government in the State,	The Department publicly exhibited the proposal (Section 5.1), which included consultation with Liverpool City Council and other Government agencies and consideration of their responses (Sections 5 and 6).
(j) to provide increased opportunity for community participation in environmental planning and assessment.	The Department publicly exhibited the proposal as outlined in Section 5.1 , which included notifying adjoining landowners and displaying the proposal on the Department's website.

4.4.3 Ecologically sustainable development (ESD)

The EP&A Act adopts the definition of ESD found in the *Protection of the Environment Administration Act 1991*. Section 6(2) of that Act states that ESD requires the effective integration of economic and environmental considerations in decision-making processes and that ESD can be achieved through the implementation of:

- the precautionary principle.
- inter-generational equity.
- conservation of biological diversity and ecological integrity.
- improved valuation, pricing and incentive mechanisms.

The development proposes ESD initiatives and sustainability measures, including:

- energy conservation (onsite generator, high efficiency of heating ventilation and air-conditioning).
- water conservation (water demand reduction, efficient water distribution, water recycling, efficient fixtures/fittings and rainwater tank).
- materials (use durable façade and building thermal materials).
- construction material (offsite fabrication, recycled content, highly recyclable materials).

The EIS included an ESD report that details how the principles of would be addressed in the development. Although no specific Green Star rating has been proposed, the proposal complies with the Educational Facilities Standards and Guidelines (EFSG) issued by the Department of Education, that targets an equivalent 4-Star Green Star rating.

The Department has considered the proposed development in relation to the ESD principles. The precautionary and inter-generational equity principles have been applied in the decision-making process via a thorough assessment of the environmental impacts of the proposed development.

In order to ensure that ESD is incorporated into the proposed development, the Department has recommended a condition that requires the Applicant to register for a minimum 4-star Green Star rating with the Green Building Council Australia, or an alternative certificate process as agreed by the Planning Secretary, prior to the commencement of construction.

Subject to the implementation of this condition, the proposed development is consistent with ESD principles as described in Section 4 and Appendix K of the Applicant's EIS, which has been prepared in accordance with the requirements of Schedule 2 of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), as applicable at the time of lodgement. Overall, the proposal is consistent with ESD principles and the Department is satisfied the proposed sustainability initiatives would encourage ESD, in accordance with the objects of the EP&A Act.

4.4.4 Environmental Planning and Assessment Regulation 2000

Subject to any other references to compliance with the EP&A Regulation, as applicable at the time of lodgement, cited in this report, the requirements for Notification (Part 6, Division 6) and Fees (Part 15, Division 1AA) have been complied with.

4.4.5 Planning Secretary's Environmental Assessment Requirements

The EIS is compliant with the Planning Secretary's Environmental Assessment Requirements (SEARs) and is sufficient to enable an adequate consideration and assessment of the proposal for determination purposes.

4.4.6 Section 4.15(1) matters for consideration

Table 33 identifies the matters for consideration under section 4.15 of the EP&A Act that apply to SSD in accordance with section 4.40 of the EP&A Act. The table represents a summary for which additional information and consideration is provided in **Section 6** and relevant appendices or other sections of this report and EIS, referenced in the table.

Table 3 | Section 4.15(1) matters for consideration

Section 4.15(1) Evaluation	Consideration
(a)(i) any environmental planning instrument	Satisfactorily complies. The Department's consideration of the relevant EPIs is provided in Appendix B .
(a)(ii) any proposed instrument	The Department's consideration of the relevant draft EPIs is provided in Appendix B .

Section 4.15(1) Evaluation	Consideration
(a)(iii) any development control plan (DCP)	Under clause 11 of the SRD SEPP, DCPs do not apply to SSD. Notwithstanding, consideration has been given to relevant DCPs at Appendix B .
(a)(iia) any planning agreement	Not applicable.
(a)(iv) the regulations <i>Refer Division 8 of the EP&A Regulation</i>	The application satisfactorily meets the relevant requirements of the EP&A Regulation, including the procedures relating to applications (Part 6 of the EP&A Regulation), public participation procedures for SSD and Schedule 2 of the EP&A Regulation relating to EIS.
(b) the likely impacts of that development including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	The development satisfactory meets the relevant requirements - refer to Section 6 .
(c) the suitability of the site for the development	The site is suitable for the development as discussed in Sections 3, 4 and 6 .
(d) any submissions	No public submissions have been received. Consideration has been given to the comments by Government agencies and Liverpool City Council. See Sections 5 and 6 .
(e) the public interest	Refer to Sections 6 .

4.5 Biodiversity Development Assessment Report

Under section 7.9(2) of the *Biodiversity Conservation Act 2016* (BC Act), SSD applications are “to be accompanied by a biodiversity development assessment report (BDAR) unless the Planning Agency Head and the Environment Agency Head determine that the proposed development is not likely to have any significant impact on biodiversity values”.

A BDAR was provided by the Applicant with the EIS. The BDAR indicates that the development footprint is not located in an area that accommodates any remnant native or naturally occurring vegetation. Therefore, no Plant Community Type (PCT) has been assigned to the vegetation present on the site.

The identified tree canopy within the campus and the surrounding road reserve contains several native trees, including *Angophora costata* (Smooth-barked Apple), *Corymbia maculata* (Spotted Gum) and *Eucalyptus microcorys* (Tallowwood). The BDAR identified one planted threatened species, *E. scoparia* (Wallangarra White Gum).

The BDAR advises that the development footprint is unlikely to be the habitat for Microchiroptera bats. The submitted BDAR report considers the siting of the building footprints to avoid, minimise and mitigate impacts to the vegetation and species habitat present within the site. The BDAR

recommends methodologies to minimise impacts during construction of the development, direct, indirect, and prescribed impacts.

One Serious and Irreversible Impact entity is present outside the building footprint, being Wallangarra White Gum. The development would have no impact on this entity.

The BDAR concluded that with one dead tree proposed to be removed, no PCT present and no visible habitat of threatened fauna species, the existing biological diversity and ecological integrity of the site remains intact and would not be impacted by the proposed development. Notwithstanding, the BDAR includes management and mitigation measures including retention of trees not impacted by the development and implementation of sediment erosion control measures during construction works.

The Biodiversity and Conservation Division, Environment and Heritage (BCD) have reviewed the proposal and provided no specific comments in relation to biodiversity. The Department is satisfied that subject to recommended conditions in relation to implementation of the mitigation and management measures, the proposed development would have no impact on the surrounding biodiversity.

5 Engagement

5.1 Department's engagement

In accordance with Schedule 1 of the EP&A Act, the Department publicly exhibited the application from 29 June 2021 until 26 July 2021.

The Department placed a public exhibition notice on the Department's website and notified adjoining landholders and relevant State and local government authorities in writing. The Department representatives visited the site to provide an informed assessment of the development.

The Department has considered the comments raised in the Government agency and Liverpool City Council's submission during the assessment of the application (**Section 6**) and/or by way of recommended conditions in the instrument of consent at **Appendix E**.

5.2 Summary of advice from Government agencies and submissions

The Department received a total of nine advice from Government agencies and one submission from Liverpool City Council. No submissions from the public were received during the exhibition period.

A summary of the issues raised by the Government agencies and Liverpool City Council is provided in **Table 4** and copies of the comments and submission may be viewed at **Appendix A**.

Table 4 | Summary of Government agency advice and Council submission to the EIS exhibition

Liverpool City Council (Council)

Council did not object to the proposal, but provided the following comments:

- the open space and outdoor play space provision for both the existing high schools and proposed primary school should be examined.
- any modification or reduction in open space within the campus should not be accepted to ensure the development is consistent with applicable State planning provisions and strategies, which recognise the importance of open space and physical and psychological well-being of the students.
- the EIS does not clearly outline the allocation of open space for all the schools within the campus including NLPS, at the rate of 10sqm/student, in accordance with the Department of Education's Educational Facilities Standards and Guidelines (EFSG).
- high schools require at least two full sized soccer fields and the proposal appears to be located within a soccer field, thus impacting on available recreation/play areas for the high school.
- the loss of open space would have adverse social impact on the community within Liverpool CBD, which is already under growth pressure.
- the Applicant should consult with the key stakeholders, school community and the high schools, to ensure that the open play areas are appropriately shared and that 'shared use' agreements are in place.
- the proposal should ensure that it accommodated multi-purpose school facilities and open space, that can be accessed by the community outside of school hours.

- the Applicant should develop partnership with local community service providers to ensure community use of the development.
- the operational management mechanism should clarify the impacts of upgrading the basketball court to a multi-purpose court (through line marking).
- the roof form should be redesigned with large extended eaves so that shading can be provided, and on-going operational costs are reduced, especially in summer.
- additional cycling infrastructure should be provided to facilitate NLPS.
- the Applicant should clarify whether the public-school site on Railway Street is proposed to be retained and/or upgraded.
- site remediation should be undertaken, and a Remedial Action Plan should be provided.
- the noise assessment should include assessment of noise impact for uses outside of school hours and include noise control measures such as minimising vehicle alarms, high noise generating plants.
- the Applicant should clarify whether the school canteen includes kitchen facilities along with details of the fit outs if included.
- the Applicant should obtain a separate approval for on-site sewage management systems.

Additionally, Council also recommended a number of conditions of consent in relation to civil works, food preparation area details, waste management enclosure details, traffic control plan and construction noise and vibration management plan.

Heritage NSW, Environment and Heritage (HNSW)

HNSW provided the following comments:

- the assessment of archaeological potential is satisfactory.
- the site has the potential for archaeology of local significance.
- no comparative research questions are included, comparing the development with other sites in Sydney and should be included in the research.

Endeavour Energy

Endeavour Energy provided the following comments:

- appropriate easements and clearances are required for the proposed pad mount substation.
- the Applicant should engage with an Electrical Consultant / ASP prior to finalise plans to assess and incorporate any required electricity infrastructure.
- personnel access doors and fire exit doors to a building are not permitted within the fire restriction area.
- gas mains/pipes should not pass through the fire restriction area.
- a 10m clearance distance should be maintained between substation and fire hydrants, booster valves, and the like in accordance with AS2419.1 'Fire hydrant installations System design, installation and commissioning' as updated from time to time.
- any landscaping that potentially could transfer / provide connectivity for flame or radiant heat from a fire in the substation to a dwelling or building should be avoided.

Transport for NSW (TfNSW)

TfNSW did not raise any specific concern regarding the proposal.

TfNSW provided recommendations regarding an updated Green Travel Plan, the preparation of a Construction Traffic Management Plan and installation of School Zone.

Sydney Trains

Sydney Trains did not raise any concerns regarding the proposal. Sydney Train recommended conditions of consent in relation to development near the rail corridor.

BCD

BCD did not provide any specific comments about the proposal and commented that it does not support the planting of Chinese Tallow Tree on the site as they are classified as weeds.

HNSW Aboriginal Cultural Heritage (ACH)

ACH provided the following comments:

- the site has potential to contain medium and high-density relics.
- noting the above, the proposed test excavations should be undertaken prior to the determination of the SSD application.
- the newly recorded sites within the project area are not yet registered on the Aboriginal Heritage Information Management System (AHIMS).
- the Applicant should register all Aboriginal sites with AHIMS under section 90Q of the National Parks and Wildlife Act 1974.

Health, South Western Sydney, Local Health Districts (NSW Health)

NSW Health recommended that the following items be considered:

- the proposed walking mode share target of 50% - 70% is considerably higher than existing travel modes in similar schools in the locality. The comparison of the site with Chatswood and Macquarie Park may not be relevant as there is high car dependency within the Liverpool CBD.
- separate consents and consultation are required for proposed works on Burnside Drive.
- future proposed roundabouts are not a safe or convenient option for pedestrians and cyclists, particularly for children.
- the roundabout at the intersection of Lachlan Street and Hart Street should be removed to create a safe drop-off/pick-up environment.
- options for closing Hart Street at this roundabout and creating a more pedestrian friendly environment for Lachlan Street should be considered.
- the allocation of a pedestrian refuge outside the school is not appropriate as this route would be a high pedestrian traffic route to Liverpool hospital's new multi-storey car park, to be located at the southern end of Burnside Drive.
- streets in the school catchment area, to the north of Campbell Street are not designed for safe walking and cycling due to vehicles parked on both sides, lack of adequate pedestrian midblock crossings and footpaths.
- future proposed roads are not safe for children to cross, walk/cycle to the school independently.
- Lachlan Street should be a priority walking and cycling route for east west movements at the northern end of the Liverpool CBD.
- continuous footpaths have not been provided along with the Lachlan Street to the entry point of the school which may have adverse effects on wheelchairs, prams, persons with mobility impairment.

Sydney Water

Sydney Water did not raise any concerns regarding the proposal.

NSW Environment Protection Authority (NSW EPA)

EPA did not raise any concerns regarding the proposal.

Government Architect NSW (GANSW)

Government Architect NSW (GANSW) reviewed the proposal and requested that the following matters raised by the State Design Review Panel (SDRP) be resolved by the Applicant:

- additional shading and/or planting should be added along the western boundary which may include some treatment to the western façade.

- details of any proposed link between the school and the western side of the campus (east-west link) should be shown.
- clarification should be provided regarding lack of breakout balconies on level 1 (previously proposed as part of pre-EIS consultation with SDRP).
- the materials palette should be clarified.

5.3 Response to submissions

Following the exhibition of the application, the Department placed copies of all submissions and agency advice received on its website and requested the Applicant provide a response to the issues raised in the submissions.

The Department provided the comments from GANSW to the Applicant and also requested the Applicant:

- provide further details on the design response to mitigate the impacts of flooding on the site as well as the reasons why the buildings have been designed to be below the Probable Maximum Flood (PMF) level of the site.
- provide details of the future mitigation measures for the Lachlan Street/Hart Street/Burnside Drive roundabout.

After receipt of advice from agencies and submissions, the Applicant further consulted with SDRP. On 8 September 2021, SDRP provided further comments and supported a number of design elements including the roof articulation, eaves, balustrades, central courtyard, COLA and street furniture.

However, SDRP raised the following concerns:

- the structural system is unconfirmed and the design ramifications due to the structural design are uncertain.
- the architectural expression and materials selection are uncertain.
- the structural and external materials should be confirmed and addressed in the design.
- the purpose of the yarning circles and the significance of their location should be clarified.

Additionally, SDRP recommended that the Applicant should continue to consult with the Aboriginal community in relation to the overall spatial planning, landscaping and material designs. Holistic Connection-to-Country strategies should be developed.

On 12 November 2021, the Applicant provided a Response to Submissions (RtS) (**Appendix A**) on the issues raised during the exhibition of the proposal. The RtS included the following amendments to the design of the proposal:

- reduction of overall building footprint.
- minor design refinements, including:
 - relocation of southern egress stair further west following a Building Code of Australia (BCA) review.
 - consolidation of plant area to ground floor (south-west of the school building).
 - additional storage room at Level 2 of the school building above special program rooms.
 - delivery of the preschool as 'Cold Shell', excluding fit out.
 - reduced setback to Lachlan Street entry link (Level 1 & Level 2).
 - building height reduced from 14.8m to 14m (top of roof).

- removal of east-west site link to the south of the school building administrative area.
- additional tree planting, and amendments to tree planting schedule.
- replacement of pest tree species with more appropriate trees.
- minor adjustment of building services.

The RtS was also supported by several technical documents responding to the issues raised by the agencies in their review of the EIS which included the following information:

- breakdown of play spaces for NLPS, LBHS and LGHS along with justification of the reduction of open space within the campus.
- reiteration of the reasons why the buildings are sited below the PMF.
- an amended noise and vibration report including an assessment of outdoor play noise levels for the preschool children.
- justification regarding the adequacy of the 25 drop-off/pick-up spaces on the site.
- clarification regarding the recommended walking mode share target of 50% and how this would be achieved in the future through the Student Transport Plan.
- details confirming that 500mm deep vertical and horizontal sunshades have been provided to the Western façade, which would mitigate any heat impacts due to the building orientation.
- confirmation that an east-west site link from the primary school to the high schools would be provided in the future aligning with the Liverpool Innovation Precinct Masterplan.
- justification regarding deletion of the balconies on the first floor.

The RtS advised that the Aboriginal archaeological test excavation was delayed due to Covid-19 restrictions across Greater Sydney in 2021 but would be provided shortly. The RtS also confirmed that the site has been registered on the Aboriginal Heritage Impact Management System.

The RtS was made publicly available on the Department's website and was referred to the relevant Government agencies and Council. The Department received advice from nine Government agencies and one submission from Council in response to the RtS.

5.4 Summary of submissions to RtS

A summary of the issues raised in the Council's submission and government agency advice is provided at **Table 5**.

Table 5 | Summary of Government agency advice and Council submission to the RtS

Council

Council provided the following additional comments:

- the minimum requirements for the finished floor level on the flood affected site have not been complied with.
- the ground floor level is set at 9.3m AHD which is lower than the PMF level for the site and is not acceptable.
- the design amendments recommended during the exhibition of the EIS should be pursued. further information would be required regarding archaeological test excavations.

Council reiterated that the previously recommended conditions should be included in the development consent, should the application be approved.

HNSW

HNSW provided the following comments:

- an excavation permit under section 40 of the *Heritage Act 1977* has been approved which allowed for a staged historical archaeological testing and salvage program to be undertaken within the site as part of the early works program prior to the commencement of works in relation to the school. Therefore, works in relation to archaeological test excavation can be taken out of the scope of this application.

Endeavour Energy

Endeavour Energy has no further recommendations or comments regarding the proposal.

Transport for NSW (TfNSW)

TfNSW provided the following comments:

- the Green Travel Plan has not been updated in accordance with the EIS comments.
- consideration should be given to the provision of shared path facilities along Burnside Drive and Lachlan Street frontages for integration with the surrounding pedestrian and cycling network.
- adequate pedestrian and cycling management facilities should be provided for the school.
- the proposed drop off/pick up zone should be sufficient for the proposed number of children.
- details of the proposed roundabout at the southern end of Burnside Drive have not been provided and it is not clear if it would affect the proposed car park to service NLPS.
- the Applicant should demonstrate that all vehicles (including buses, if proposed) can appropriately manoeuvre around the roundabout.
- Burnside Drive is not wide enough to allow bus operation.

Sydney Trains

Sydney Trains did not raise any further concerns regarding the proposal.

BCD

BCD provided the following comments:

- there are no biodiversity credits obligations required to offset biodiversity impacts.
- the development site is subject to flooding under the PMF event from mainstream and overland flooding. The warning time for mainstream flooding would be in the order of 9-12 hours whilst there would not be adequate warning time available when impacted by the PMF event.

- the site is expected to have increased evacuation constraints due to the urban intensification occurring within the Liverpool LGA.
- should Council implement an adaptive planning process, evacuation of teachers and students from the new primary school during flooding under the PMF event in the Georges River could be facilitated. This would negate the requirements for adopting the flood planning level as per the PMF level from the Georges River.

ACH

ACH reviewed the RtS and advised that the test excavation report should be provided to the team for further comment.

NSW Health

NSW Health did not provide further comments and indicated that their previous comments should be considered.

Sydney Water

Sydney Water did not raise any further concerns regarding the proposal.

NSW Environment Protection Authority (NSW EPA)

EPA did not raise any concerns.

GANSW reviewed the RtS and continued to raise concerns regarding the overall structural materials, the external materials and finishes of the building, the landscaping elements including location of the vegetation patch and the yarning circles. GANSW also indicated that the Applicant's RtS did not address all of the concerns raised in the most recent SDRP meeting. Engagement with local Aboriginal community members has occurred but has not influenced the design holistically.

Noting the concerns raised by the Government agencies and due to additional matters noted in assessment, on 29 November 2021, the Department requested further information regarding:

- the internal layout of the preschool and how the unencumbered internal and external open space requirements would be achieved for 40 children.
- open space area allocation for the school students and preschool students.
- compliance with GANSW comments regarding landscaping, external materials and structure.
- details to confirm that 40% canopy cover can be provided on the site.
- details of the building footprint reduction and its impacts on the classroom layout.
- inadequacies of flooding assessment and the details of flood mitigation measures.
- provision of a flood evacuation plan (as suggested by the flood report).
- details of manoeuvring of a medium rigid vehicle (MRV) within the waste hardstand area and the impacts on the bicycle parking area as a result of such vehicle turning.

- delineation of waste storage area in the architectural plans.
- an amended noise assessment to demonstrate that the internal areas for the preschool would comply with the noise criteria specified in the Development Near Rail Corridors and Busy Roads – Interim Guideline.
- proposed parking facility for preschool noting that the parents of preschool students would not be able to use the drop-off/pick-up zone.
- opportunities to screen the pad mount substation fronting Lachlan Street.
- confirmation regarding the proposed traffic mitigation works at Lachlan Street/Hart Street/Burnside Drive roundabout.
- evidence of consultation with Council regarding the provision of safe cycling infrastructure around the site to facilitate active transport.
- evidence of the test excavation and any associated reports in relation to Aboriginal heritage.

On 15 December 2021 the Department held a meeting with the Applicant to discuss further details about preschool play area, classroom design, flooding, preschool parking, cycling concern and comments received from GANSW.

5.5 Supplementary Response to Submissions (SRtS)

The Applicant submitted a supplementary Response to Submissions (SRtS) on 23 December 2021 including amended architectural drawings and responses to some of the above issues including the Archaeological Test Report, the fencing and public domain strategies as well as confirming the canopy cover to be 26%. However, the Department requested further information on 24 December 2021 reiterating majority of the above concerns including flooding and traffic (parking for preschool and roundabout operations).

Department staff then undertook consultation with the Applicant and held a meeting on 4 February 2022.

In response, the Applicant provided further SRtSs on 16 February 2022 and summarised key matters outlined below:

- a Flood Emergency Response Plan (FERP).
- test fit concept plan for preschool students showing compliance with the required unencumbered outdoor and indoor play areas along with all narrow play areas removed.
- details of shading of the western façade and the glazing performance.
- materials and finishes schedule and other design details responding to GANSW.
- reconfiguration of the bin storage area and surroundings locating the bins to the south of the hardstand to provide increased manoeuvrability for MRV.
- delineation of the bins and bin wash area in the architectural plans.
- allocation of two parking locations providing a total of seven parking spaces for the preschool.
- submission of the “Connection to Country Strategy” report.
- location of the booster in the context of Lachlan Street and confirmation that the booster would be located within a cabinet (outside the scope of the SSD).
- landscape plans showing location of the yarning circles, play areas and canopy cover.

5.6 Independent Flood Assessment

The Department engaged an independent flood consultant, Advision Worley Group, in December 2021 to obtain independent advice regarding the flood related impacts on the proposed design and operation of the school.

The Applicant's flood consultant reviewed the flood assessment of the site and the FERP prepared by the Applicant and concluded that:

- the development proposal is classified as a sensitive land use and does not comply with the flood related requirements of Liverpool Development Control Plan 2008 (LDCP).
- evacuation of the school population does not consider the need for concurrent evacuation from the two neighbouring high schools in the occurrence of a flood emergency or the potential for traffic congestion leading to 'grid-lock' should parents evacuate their children.
- traffic modelling should be undertaken if evacuation is to be considered as a means of managing the flood risk to the school population.
- shelter-in-place can be considered as an alternative to evacuation, given that the school buildings are three storeys. However, the length of time for which shelter is needed would need to be investigated and assessed with regards the riverine and local flooding.

The independent flood report can be viewed at **Appendix C**.

5.7 Further consultation and SRTs

The Department consulted with BCD in February 2022 regarding the impacts of flooding and the adequacy of the response plan. BCD raised concerns regarding the evacuation from the site noting that the surrounding area is highly affected by 1% Annual Exceedance Probability (AEP) flooding which would result in evacuation being difficult. BCD suggested that the Applicant consult with State Emergency Services (SES) regarding the shelter-in-place strategy, prior to implementing.

Based on comments from the flood consultant and following a site visit, the Department requested further information (on 18 February 2022 and 28 February 2022) regarding the following:

- examples of other sites within NSW where habitable ground floor level of schools and/or childcare centres have been approved/ constructed below the PMF level.
- outcome of consultation with Council to establish whether a FERP is acceptable to Council in lieu of the school buildings being built above the PMF.
- how flood evacuation would be undertaken considering the fact that a number of surrounding roads would be impacted by the 1% AEP.
- consideration of parents seeking to evacuate children and causing traffic blockage on the surrounding road network.
- evidence of consultation with SES regarding the viability of the proposed shelter-in-place strategy noting that the flood inundation may take more than 24 hours which may impact on the children aged 3 – 12 years.

The Department conducted several meetings with the Applicant between January and March 2022, to discuss the flooding impacts of the development and the possible solutions.

On 9 March 2022, the Applicant advised the Department that the works under Part 5 of the EP&A Act as discussed in **Section 2** have been endorsed by the appropriate authority.

On 29 March 2022 NSW Health provided comments and indicated that the Applicant would need to consult with them prior to the Part 5 works being undertaken.

In response to the concerns raised by the Department, the Applicant submitted a further SRtS on 31 March 2022, including an amended FERP. The amended FERP indicated that a site-specific solution has been applied to the site, which proposed evacuation onto the multi-purpose hall of the high schools. The FERP also included some details on the shelter-in-place strategy. The Applicant advised that consultation with SES was ongoing and comments from the authority were pending.

The Applicant also advised that consultation with NSW Health, regarding the works on Burnside Drive was in progress.

The Department consulted with BCD and SES regarding the FERP. Additionally, the Department requested further information regarding:

- the capacity of the multi-purpose school hall within LBHS and LGHS to accommodate approximately 2780 students at any one time.
- issuing of amended plans to resolve inconsistencies in the previous plans submitted.
- issuing of an amended 'Connection to Country Strategy' Report.

ACH reviewed the Test Excavation Report and raised no concerns regarding the archaeological testing and salvage strategy subject to implementation of the recommendations.

BCD reviewed the FERP and raised no concerns subject to endorsement of SES.

On 12 April 2022, SES advised that the proposed development on this site would only be appropriate if Council adopts the levels determined by the Two-Dimensional Unsteady Flow (TUFLOW) flood study for this site conducted in 2020.

SES also advised that shelter-in-place is not appropriate for the site and recommended alternate evacuation areas for the school in the future.

The Department provided a copy of the information to the Applicant.

The Applicant provided an SRtS on 21 April 2022 addressing the above information but continuing to include shelter-in-place as an option.

6 Assessment

The Department has considered the EIS, the issues raised in submissions and the Applicant's Rts and SRts in its assessment of the proposal. The Department considers the key issues associated with the proposal are:

- flooding.
- traffic and transport.
- built form and urban design.
- open space and preschool.

These issues are discussed in the following sections of this report. Other issues taken into consideration during the assessment of the application are discussed at **Section 6.5**.

6.1 Flooding

The site and surrounding lands are subject to mainstream flooding from Georges River, located to the southeast of the site, and overland local flooding from the Liverpool CBD catchment to the south and west.

The site generally slopes from the north-western corner to the south-eastern corner. The LBHS and LGHS are located on the highest ground levels in the north-western corner of the site at 13.5m AHD and the NLPS is proposed to be located at the lowest ground level adjacent to Burnside Drive, at 8.6m AHD.

The Applicant states that the site is located within the Georges River and the Liverpool City Centre overland flow PMF levels extent but free from hazard during 1% Annual Exceedance Probability (AEP) or 1 in 100-year flood extent for both the Georges River and the Liverpool CBD overland flow paths. The site also has the potential to experience nuisance flooding because of local overland stormwater flows. **Table 6** provides probable flood levels from the Georges River.

Table 6 | Flood levels from the Georges River (Applicant's SRts 2021)

Design Flood (ARI)	Flood level (m AHD), Council adopted in 1991
20-year	7.6
50-year	8.4
100-year	8.6
Probable Maximum Flood (PMF)	10.8

The finished floor level for the ground floor of the building would be at 9.3m AHD.

The building is, therefore, sited above the 100- year flood or 1% AEP level for Georges River flood event (being 8.6m AHD).

However, the ground floor of the building would be located 1.5m below the Georges River PMF level (PMF at 10.8m AHD and ground floor at 9.3m AHD).

The Liverpool CBD overland flow PMF is at 9.3m AHD. The proposed ground floor is set at this level. Therefore, the development would only be impacted by the Georges River PMF event.

According to the Applicant, Council has adopted the following flood risk classification that divides the floodplain into three different flood risk areas (**Figure 18**).

- high flood risk – land below the 100-year flood (1% Annual Exceedance Probability (AEP) that is subject to a high hydraulic hazard or where there are significant evacuation issues.
- medium flood risk – land below the 1% AEP flood that is not subject to a high hydraulic hazard and where there are no significant evacuation issues.
- low flood risk – land that is above the 1% AEP flood, but still potentially affected by floods up to the PMF.

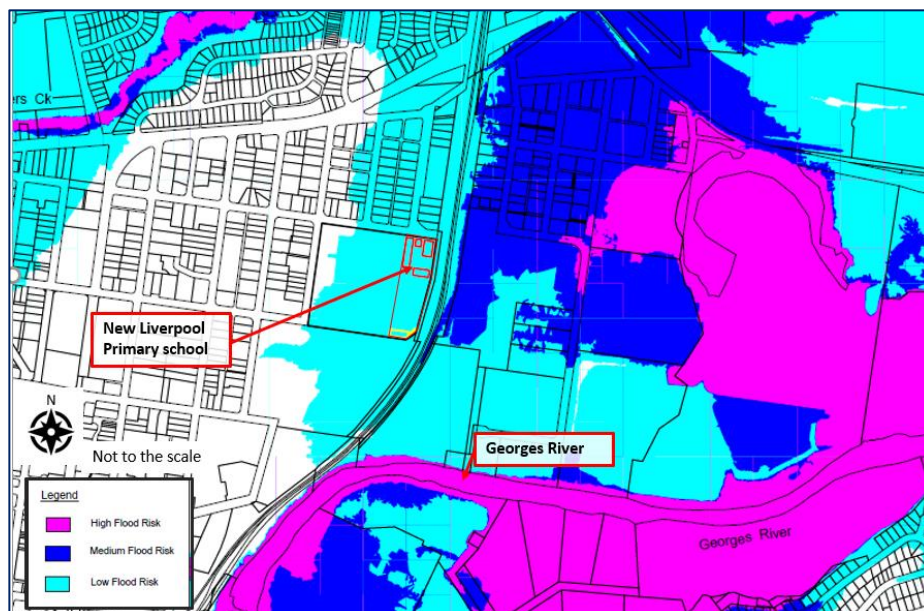


Figure 18 | Flood risk levels (Source: Applicant's SRtS 2022)

Per **Figure 18**, the site is located in a low flood risk area, as it is above the 1% AEP for both the Georges River and Liverpool CBD overland flow (per the Council adopted levels).

The Applicant submitted a Civil Design Report (CDR) with the EIS. The CDR acknowledges that the finished floor level of the ground floor of the primary school building would be lower than the PMF level, which contravenes the requirements for schools in flood effected areas as per the LDCP 2008.

The CDR also acknowledges that as part of the Liverpool hospital project, stormwater upgrades are proposed to improve the flooding conditions on Campbell Street, Goulbourn Street and the Liverpool CBD. However, these would slightly worsen the PMF flooding situation for the NLPS site (**Figure 19**).

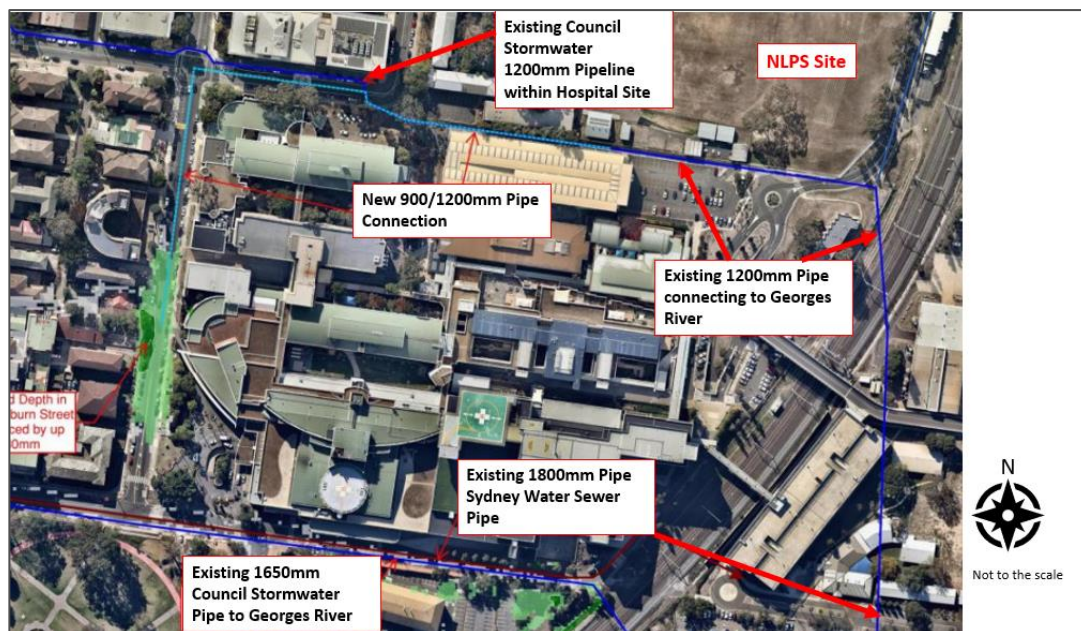


Figure 19 | Drainage upgrade proposed for Liverpool hospital (Source: Applicant's EIS 2021)

Notwithstanding the above, the CDR states that designing the proposed school according to Council's requirements is not viable for the following reasons:

- the buildings require appropriate access between the ground floor and the external ground which would be difficult to achieve.
- raising the building height would result in 45m long ramp and stairs, which would not comply with the *Disability Discrimination Act* requirements.
- significant earthworks would be required to fill up to the building pad at 10.8m AHD.
- the development would not result in a satisfactory urban design outcome if this design is pursued.

Additionally, the CDR states that the peak flood event from the CBD catchment would occur during the 1.5-hour storm, which would not allow sufficient time for evacuation. Consequently, ground floor levels for the buildings have been set above the localised PMF level rather than the George's River PMF.

Instead of building above the George's River PMF, the CDR proposes flood evacuation for employees and students (including preschool occupants) and states that the peak mainstream flood level from Georges River would occur during 48-hour storm events. This would allow sufficient time to implement a flood emergency response plan (FERP) with an advance warning system in place aimed at closing the school the day before the riverine PMF is forecast to occur. The main recommendations of the CDR are:

- provision of pedestrian access during flood events towards the west of the site.
- use of flood compatible building materials below the PMF.
- building flood compatible structures to withstand forces of flood water, debris and buoyancy.
- considering a building design that would not worsen flood levels / storage or velocities.
- consideration of car parking and driveway access to be the freeboard.
- compliance of flood management and buildings design with the LDCP.
- appropriate fencing design to avoid obstruction of flood water flows.

Government agency submissions

During the EIS exhibition and throughout the assessment process Council has raised significant concerns regarding the proposed development, mainly in relation to the flooding impacts. Council has recommended that all buildings be built above the PMF to ensure safety of the students and comply with Council's requirements.

The Department reviewed the Applicant's EIS and requested details of approach to the timing for PMF floodwater rise and floodwater fall, as well as a detailed FERP be provided for the site. The Department also engaged extensively with BCD and SES in this regard.

Following consultation with the Department, the Applicant's SRtS included a FERP.

Applicant's SRtS and FERP

The submitted FERP (November 2021) included a detailed assessment of flooding impacts on the site. The probable flood levels in the FERP are provided in **Table 7**. The FERP advises that flood levels currently adopted by Council are sourced from the Georges River Flood Study 1991.

The FERP also provides the following information regarding the flood characteristics of the site, considering the adopted flood levels in 1991:

- the maximum velocity in this area would be 0.4m/s in the PMF event (at the eastern end).
- overall, the site would have a maximum velocity of 0.2 to 0.3m/s.
- existing LBHS and LGHS sites would have less than 0.1m/s velocity.
- the flood level would reach 10.8m AHD after 25 hours and would start rising within 10 to 15 hours of a flood event from Georges River.
- in the last hour (24th and 25th hour) the flood water would increase rapidly by 1m.
- the site would experience the maximum flooding levels within 3.6 hours of Georges River experiencing a 'major flood event' (i.e. 4.5m on the Liverpool hydraulic gauge, or 7.3m AHD).
- the maximum flood levels would be reached within 1.7 hours of the flood waters overtopping the railway embankment.

The rate of floodwater rise is identified in **Figure 20**.

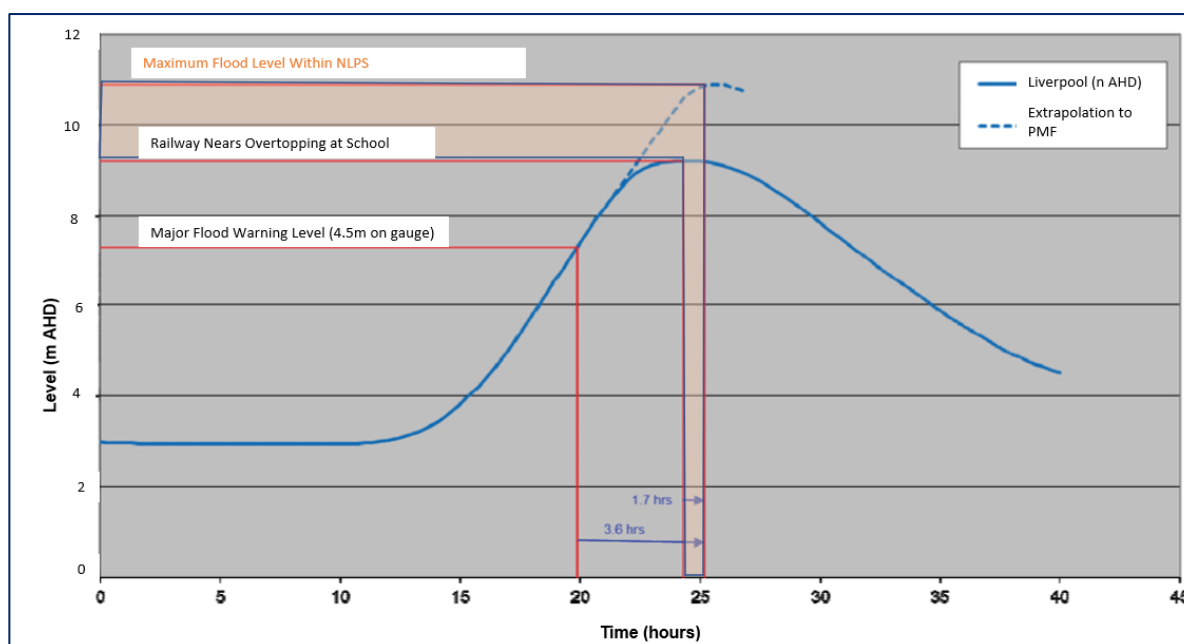


Figure 20 | 100 Year flood hydrograph at Liverpool (Source: Applicant's SRtS 2022)

Regarding warning times, the FERP states that the Bureau of Meteorology provides a formal flood warning scheme for the Georges River. The scheme monitors rainfall and river gauges in the upper catchment and aims to provide at least 12 hours warning of impending flooding. The SES issues the flood warning and has responsibility for evacuation and other emergency response actions including evacuation orders.

Table 7 | Flood level height, warnings and relevance of impact on the site (Applicant's SRtS 2021)

Description of warning	Liverpool weir flood height, (m AHD)	Impact on school site
Minor flood warning	4.8	Minor roads closed
Moderate flood warning	5.8	Main traffic routes affected and some closed
Major flood warning	7.3	Significant disruption and nearby flooding
100-year flood at Liverpool	9.2	School ground inundated
PMF	10.9	1.5m inundated NLPS

Evacuation Strategy in the FERP (November 2021)

The FERP (November 2021) stated that the recommended actions for the school would be to:

- evacuate, or close the school, at an early stage of a developing “major flood” (7.3m AHD) on the Georges River. Several steps would be involved in this including a heavy reliance on flood warnings and monitoring of flood conditions.

- contact the parents to collect the pupils, in case of a situation where a school day is in progress and flood warnings are issued.
- evacuate users via the preferred access routes, per **Figure 21**, as most of the major traffic routes within Liverpool and surrounding suburbs are likely to be inundated by flood water from the Georges River, Cabramatta Creek, and/or Brickmakers Creek and traffic routes would be inundated before the flooding within the site (per Council's recent study in 2022).
- ensure shelter-in-place for all remaining pupils and staff in one or more of the upper levels of the school buildings, in case of a situation where the school grounds are inundated by flood and evacuation is risky, and wait until the flood risk abates.

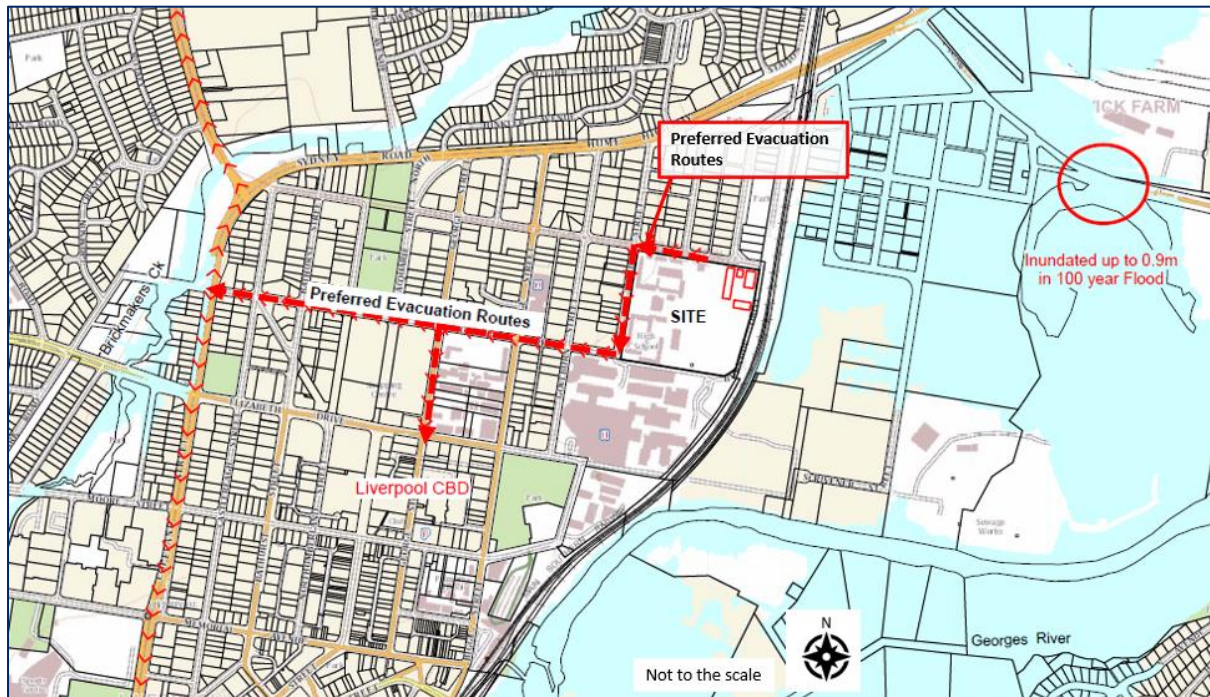


Figure 21 | Flood- evacuation routes (Source: Applicant's SRTS 2022)

Independent consultant's review and BCD comments

The Department engaged an independent flood consultant, Advision Worley Group, in December 2021 to obtain independent advice regarding the flood related impacts on the proposed design and operation of the school. The key findings in the independent review report have been discussed in **Section 5** and summarised below:

- the development does not comply with the Council's flood policy.
- the ground finished floor level of the NLPS would be at least 1.5m below the predicted peak level of Georges River PMF considering Council's 1991 adopted flood levels.
- the Applicant's projected flood warning times for evacuation using rate of rise of flood waters determined for the 1% AEP floods in the FERP is not consistent with the best practice for flood evacuation planning.
- the site analysis of the Applicant's warning times appears to be based on the rate of rise of flood waters in the 1% AEP event, when the rate of rise of the PMF should be applied.
- evacuation from the site may not be possible due to heavy reliance on flood warnings being issue based on self-evacuation timing, rather than timing relying on care givers needing to reach the site before children are able to commence evacuation of children.

- further investigation required to identify, assess and mitigate the potential risks associated with parents of children who would try to access to the school to rescue their children during high-risk periods (including entering flood waters) when safe evacuation opportunities had ceased due to flood height.
- traffic modelling would be required to confirm that the entire school student population can evacuate safely.

The flood consultant suggested that the shelter-in-place strategy may be a viable solution. However, it cannot be considered as there is insufficient information had been provided to consider its viability and more information would be required to understand the extent of the required shelter in place length of stay within the building. The flood consultant recommended that SES should also be consulted in this regard.

BCD reviewed the FERP and agreed with the flood consultant's review. BCD suggested that the warning time for mainstream river PMF would be in the order of 9-12 hours. However, there would not be sufficient warning time available when the site is impacted by the local overland flow PMF event. As such, the FERP does not provide details of how the monitoring of the warnings would occur and in what scenarios early closure of the school would happen. Currently, the early warning system is not sophisticated and cannot be fully relied upon. Further, the site may have increased evacuation constraints due to the urban intensification occurring within the Liverpool LGA in the future years and the fact that the surrounding roads, including Hume Highway would be inundated well before the 1% AEP event.

In this regard, BCD and the Department noted that a further flood study was undertaken in 2020 by Liverpool and Canterbury-Bankstown Councils, in collaboration with the Department, using the TUFLOW Model – two dimensional. Based on the flood maps in this study, a draft Flood Evacuation Analysis was prepared in 2022 in collaboration with Government agencies. While this study is unendorsed, it provides helpful insights regarding the current flood situation in Liverpool CBD area and the revised flood levels for Georges River. The revised flood levels in the draft document are provided below:

- Minor – 4.8m AHD.
- Moderate – 5.8m AHD.
- Major (1 in 15) – 7.3m AHD.
- 2% AEP – 9.4m AHD.
- 1% AEP – 9.6m AHD.
- PMF – 10.5m AHD.

In summary, this draft document considers the cumulative impacts of developments in the planning proposals within the Liverpool Collaboration Area, to assess the future evacuation issues under major and extreme flooding events. The draft document highlights that the development sequencing and adaptive planning (along with the augmentation of transport system capacity and the enhancement of existing flood warning services) would be a suitable approach to accommodate future developments in a systematic manner, which would address and mitigate flooding risks.

Subsequently, noting the Applicant's FERP and the above draft document, BCD recommended that the Applicant should provide further information on the cumulative impacts of the PMF event from the Georges River on existing and projected developments within the Liverpool CBD and the area

surrounding the school, the demand for evacuation and the adequacy of the transport networks to support evacuation within a regional context.

BCD also advised that for any shelter-in-place strategy, the Applicant must consult with SES as they are the responsible agency in such situations to supervise evacuation.

Applicant's amendments to the FERP

In response to the comments from the flood consultant and BCD, and following further consultation with the Department, the Applicant made further amendments to the FERP (March 2022). The amended FERP recommends the following strategies for flood response:

- *close the school* – if the Bureau of Meteorology provides 6-12 hours warning of future flooding.
- *early closure of the school* – if the school is already in progress and a major flood is predicted to occur during the school period. The parents would be contacted to pick up students immediately and remaining students would stay on the second and third floor of the school.
- *during the school hour* - if flooding of site has already occurred and it is too late to evacuate, the students would seek refuge within the site.

The Applicant's amended FERP recommends that the shelter-in-place strategy is a safer option for the site in a major flooding event. It would allow students to stay within the school compound rather than requiring they evacuate.

In this regard, the amended FERP recommends that a suitable location for shelter-in-place is in the shared school hall which is located between LGHS and LBHS within the campus. This shared hall is located over the library and well above the PMF level, which is accessible flood free via Forbes Street. This road would not be inundated in an extreme flood event. Therefore, any emergency food or water supply could be sought via Forbes Street and emergency vehicles could get access from this area to the Liverpool CBD.

The FERP also states that LBHS and LGHS do not require to use this shared hall for flood evacuation purpose. The Applicant's proposed evacuation route and shared hall have been shown in **Figure 22**.

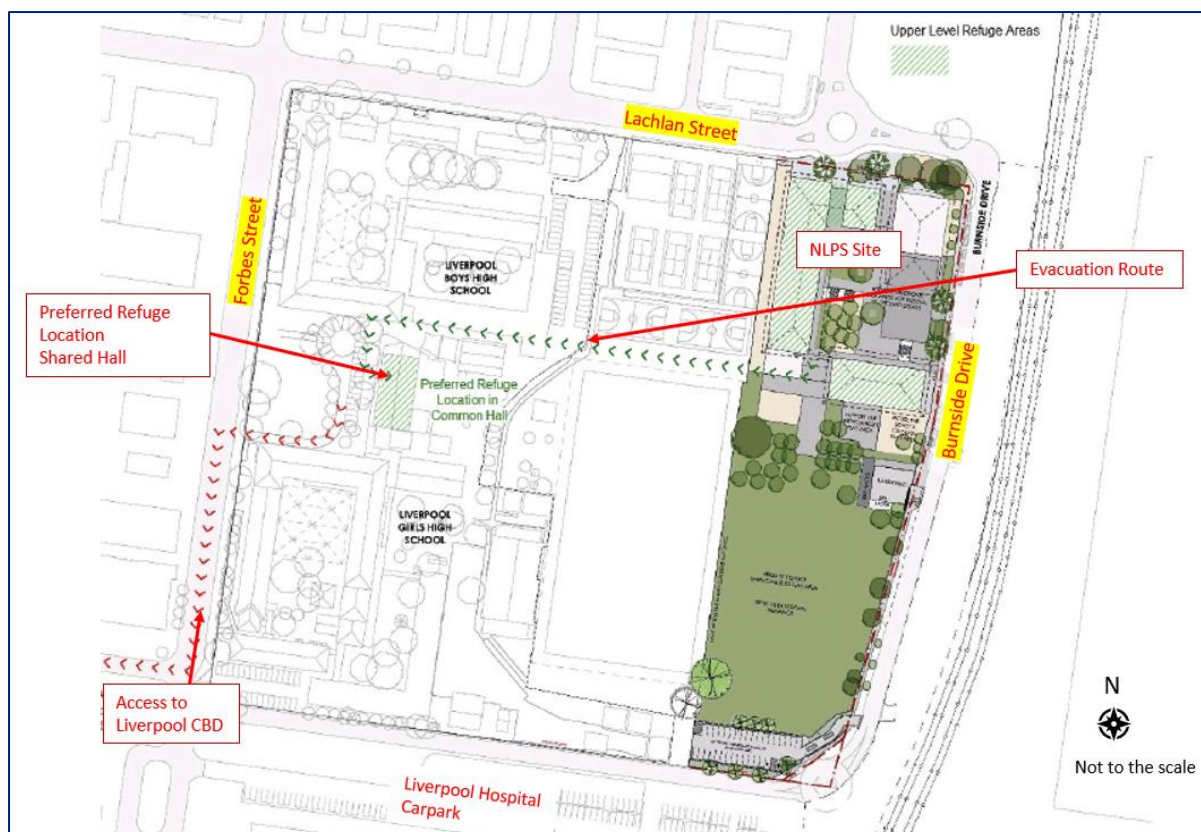


Figure 22 | Evacuation route and shelter location (Source: Applicant's SRtS, 2022)

SES comments on the FERP

SES have reviewed the amended FERP and advised that the proposed development would only be appropriate if Council adopts the levels determined in the new TUFLOW flood study for this site. In this regard, SES notes that Council is still using the previously adopted levels (**Table 7**). The Applicant should discuss with Council to ascertain the most appropriate flood planning levels for the site.

In the above scenario, the development site would be above the 1% AEP event level. However, the ground floor level of the building, being 1.5m below the PMF, is not a safe scenario for children.

SES also raised concerns regarding the proposed shelter-in-place strategy as the area surrounding the shared hall may be inundated for longer periods requiring children to be without food and drinks for extended hours. Development FERP strategies, even if they are not the primary, relying on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation. Therefore, SES does not support the shelter in place element of the FERP strategy, which relies on an assumption that mass rescue would be possible if evacuation fails or is not implemented.

Consequently, the SES have recommended the following emergency response strategies:

- ensure early closure of school when predicted that the flood level would exceed the 0.2% AEP on the Liverpool gauge, so that parents would have sufficient time to pick up the children.

- consider alternate contingency plans to evacuate the students/staff along Lachlan Street and congregate at the pedestrian assembly area at Greek Orthodox Church Carpark on Forbes Street.

However, SES reiterated that these would be appropriate only if the new levels resulting from the new TUFLOW flood study (stated above), are adopted.

SES also recommended that:

- further risk assessment is required regarding impact on existing evacuation, considering the situation that the surrounding roads would be inundated before affecting the subject site.
- the number of vehicles movements from the hospital site via Burnside Drive towards Lachlan Street should also be assessed in the flood evacuation plan.

Department's assessment

The Department has reviewed the Applicant's EIS, RtS, SRtS and comments from Government agencies. Based on comments from SES, the Department understands that Liverpool CBD currently has several risks associated with flooding and the NLPS site would be subject to these risks, post development.

If the flood levels of the draft flood study are adopted by Council in the future, then the PMF level for the site would be lower than the adopted levels in 1991. However, the 1% AEP level would be slightly higher. Overall, it is evident that if these levels are adopted, then the site would be less inundated at the Georges River PMF flood event.

The Department also agrees with BCD and the draft flood study, that the surrounding roads and roads within the wider network would be inundated during 1% and PMF flood events, before affecting the subject site. Therefore, evacuation from the site might fail, and staff and students and even parents attempting to rescue children would be isolated within the site. In this regard, noting SES comments, the Department does not support a shelter-in-place strategy.

The Department considers that closing the school would likely be the safest option. An early warning system should be in place and school might adopt a flood coordinator/supervisor/responsible person to initiate overall coordination during the PMF event.

The Department also agrees with SES that a further risk assessment of flood evacuation is required to be undertaken considering the number of vehicles in the locality.

Based on the comments from the agencies, and to ensure that the development can be operational with minimal impact on the students, staff and caregivers within the site, the Department has recommended that the Applicant:

- consults with SES during construction to provide enough time to develop a suitable Flood Emergency Management Plan.
- prepares a detailed traffic modelling and risk assessment for the locality to assess the consequences of flood evacuation including traffic from Liverpool Hospital car park along with Burnside Drive, emergency vehicle movement and the possible alternate routes for evacuation.

- consults with SES and Council in relation to an alternate early flood warning system that would allow the school to be closed prior to impact of major flooding occurring within the site and the locality.
- prepares an updated final Flood Emergency Management Plan, in consultation with State Emergency Services (SES)
- ensures that the updated Flood Emergency Management Plan eliminates the need for shelter-in-place within the site (unless otherwise advised by SES).
- provides an outcome of the consultation with State Emergency Service (SES), the traffic modelling and the updated Flood Emergency Management Plan to the Department for approval, prior to commencement of operation of the school.

The Department considers that subject to the Applicant undertaking extensive consultation with the Government agencies and preparing an updated Flood Emergency Management Plan to allow for elimination of the shelter-in-place strategy, targeting to close the school a day before the PMF event, or (in the worst-case scenario) follow the evacuation route, per SES's recommendations, the development would satisfactorily protect the students, users and staff during a major flood event.

6.2 Traffic and Transport

A Transport and Accessibility Impact Assessment Report (TAIA) was submitted with the EIS. TfNSW, NSW Health and Council made comments and raised queries in relation to the TAIA following exhibition of the EIS. The Applicant's RtS and SRtS addressed the agency comments and submissions.

The existing traffic conditions and operational impacts of the proposal are discussed in the following sections.

6.2.1 Existing condition

The location of the site in the context of the key transport hubs and train stations (Liverpool and Warwick Farm) are discussed in **Section 1** and **Figure 2**. As discussed in **Section 1**, the site is bounded by Lachlan Street to the north, Burnside Drive to the east, Liverpool Hospital to the south and the existing LBHS and LGHS to the west (**Figure 2**). The details of the surrounding road network are provided below:

- Lachlan Street is a two-way collector road configured with one traffic lane and one parking lane in each direction, connecting Burnside Drive to its east and Forbes Street to the west. Kerbside parallel parking is permitted on both sides of the road.
- Lachlan Street has a speed limit of 30 km/hr, carries about 5000 vehicles a day, has a high pedestrian activity area, and time restricted school zones. Pedestrian refuges are provided on the east and western approaches of the Lachlan Street/Forbes Street intersection, which is priority controlled.
- Hart Street is a local road which intersects Lachlan Street at a roundabout located between Forbes Street and Burnside Drive.
- Burnside Drive is a 7m wide, two-way road with one travel lane in each direction. Kerbside parking is not permitted on both sides of the road. Burnside Drive is a not a public road but crown land under care and control of NSW Health, with a speed limit of 50km/hr.

- Forbes Street is a local road, running in a north-south direction connecting Lachlan Street to the north and Campbell Street to the south. Forbes Street does not directly adjoin the site but adjoins the high schools to the west of the site.
- Campbell Street is a local road adjoining the southern boundary of the high schools.

To assess the existing traffic conditions, the TAIA undertook traffic volume surveys at nearby intersections identified in **Figure 23**.

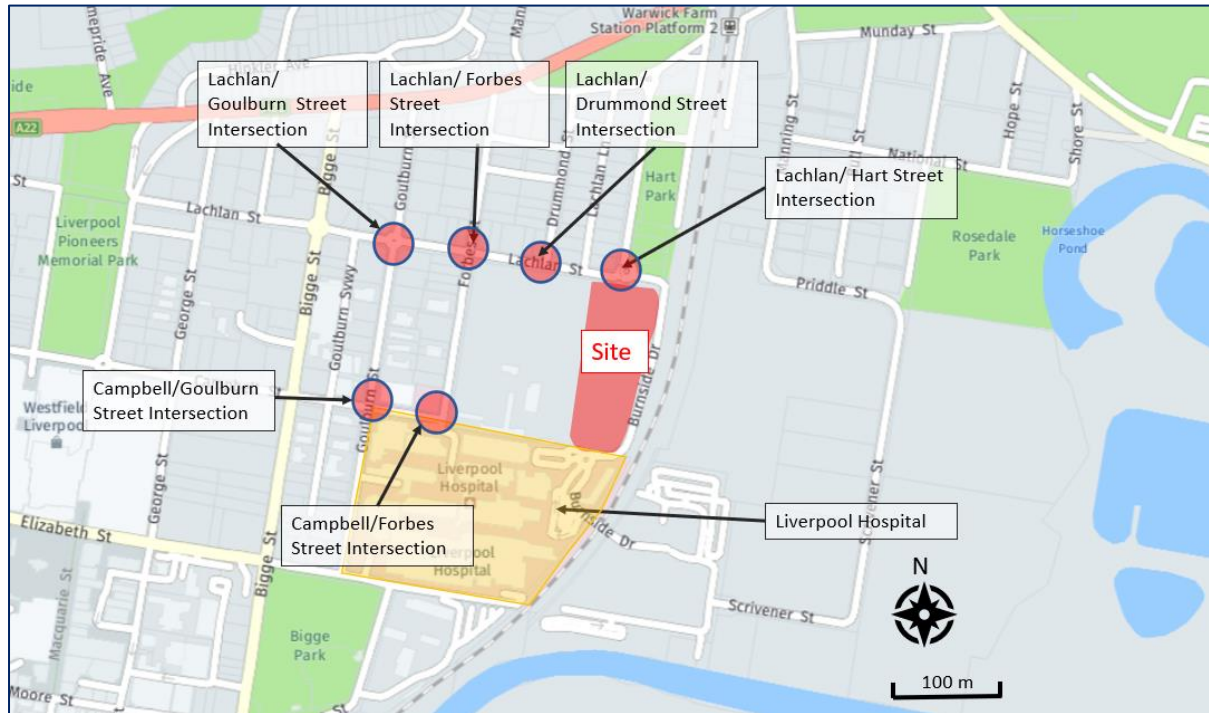


Figure 23: Survey intersections (Source: Nearmap 2022)

The TAIA also undertook surveys of key parking area on Forbes Street and Lachlan Street (near the site). For the purpose of traffic assessment, and based on the school times, the TAIA indicates that the peak school times would be 8am – 9am (AM peak) and then 2:45pm - 3:45pm (PM peak).

The TAIA notes that the traffic in the locality would be impacted in the future due to the following developments/upgrades in the near vicinity of the site. These include:

- approved Liverpool Hospital multi-storey carpark scheduled for partial completion in 2022 with an AM peak hour 7:45am – 8:45am (coincides with the school peak hour) and PM peak hour of 4pm – 5pm. The TAIA has calculated the traffic generated due to the hospital traffic accessing the car park during the AM school peak.
- an additional two floors over the existing multi-storey commuter car park at Warrick Farm Station (completion in 2022) providing an additional 250 commuter car spaces. The TAIA concludes (based on evidence) that this car park is full by 8am and therefore would not contribute to traffic during AM school peak. The PM peak for this car park would be after 5pm.
- closure of Campbell Street in the future (between Goulburn and Forbes Street) as part of the Liverpool hospital redevelopment project. This closure would have impact on the school traffic that would be redistributed to Lachlan Street.

- reversal of the existing priority at the Lachlan Street/ Forbes Street intersection (to east-west direction) to improve the performance of this intersection and consider the impacts of Campbell Street closure, recommended by the Liverpool hospital redevelopment project.
- a roundabout (proposed by the Applicant under a separate approval pathway) at the southern end Burnside Drive (adjoining the Liverpool hospital site) to facilitate the turning around of the vehicles accessing NLPS in the future.

The TAIA considers the impact of NLPS on the traffic in the locality in three scenarios:

- 2023 base scenario – modelled considering existing traffic volumes, future trips from the Liverpool hospital multi-storey car park, Campbell Street closure, hospital carparking and priority reversal of Lachlan Street/Forbes Street.
- 2023 development scenario- modelled on the 2023 base scenario plus NLPS.
- 2033 development scenario- modelled on the 2023 development scenario, traffic growth in the 10-year horizon plus the proposed traffic mitigation measures.

For the 2023 base case scenario (existing), the TAIA analyses the performances of the identified intersections and establish the Level of Service (LoS) using SIDRA modelling. The SIDRA analysis shows that in the existing situation, all identified intersections operate at LoS A – LoS B (good condition) in the AM and PM peaks with spare capacity.

The operational traffic impacts of NLPS on the traffic in the locality, as well as the proposed mitigation measures and Department's assessment of these measures are discussed in the following sections of the report, considering the three scenarios.

6.2.2 Operational traffic

Travel mode share

To assess the impact of NLPS on the above identified intersections, the Applicant conducted surveys of existing student travel mode share. The TAIA also additionally applied the first principles approach with student residential data from Liverpool Public School within the NLPS catchment as well as the anticipated walking catchment.

The TAIA notes that 43% of students are expected to reside within an 800m walking distance of the proposed main NLPS entry and 71% of students are expected to reside within a 1200m walking distance. Based on the above and the data from GTA Consultants' Trip Generation Surveys, Schools Analysis Report (2014) for primary schools in Sydney metropolitan area, the TAIA has adopted an indicative baseline walking mode share of 50%.

To substantially reduce single-vehicle private car trips to and from the site during AM and PM peaks in the future traffic scenarios, the Applicant proposes to implement a Student Transport Plan (STP) for NLPS. The TAIA advises that the STP can be implemented on the site, due to the following reasons:

- NLPS would be a new school, there is no entrenched culture, precedence, or expectation to provide a high level of car parking for staff members.
- a proportion of parking may be allocated to car-poolers only, promoting multi-occupancy car trips, with an initial allocation of half of the spaces for car-poolers.
- limited on-street and on-site parking availability (33 staff parking spaces as discussed later) would decrease the attractiveness to drive to school.

To further reduce traffic generation due to the NLPS, the TAIA suggests:

- altering the school start and finish times for LBHS and LGHS so that there is an increased separation in the activities of the high schools and NLPS (by about 20 mins).
- staggering the start and finish times of NLPS itself (half the school commences at 8:55am and the other half 9:05am, half the school concludes at 3:15pm and the other half 3:25pm).

The STP, as submitted with the application, includes several strategies and methods that would be applied to achieve the target travel mode share, both for students and staff, over a period of 10 years. It also proposes a number of pedestrian infrastructure improvements in collaboration with Council, TfNSW and/or NSW Health (discussed later) to improve walkability around the site. **Table 8** provides a comparison of the assumed baseline and target travel mode share for students.

Table 8 | Student baseline and target travel mode shares outlined in the STP (Applicant's EIS 2021)

Mode	Baseline mode share	Moderate targets	Reach (maximum) targets
Private car	45%	30%	15%
Bus	2.5%	5%	7.5%
Walking	50%	60%	70%
Bicycle	2.5%	5%	7.5%

The TAIA also includes a comparison of the baseline staff travel mode (adopted based on LBHS and LGHS) and the target staff mode share (proposed to be achieved through the STP and an improved uptake in public transport and active transport, similar to Chatswood and Macquarie Park Centres). The comparison, as presented in the TAIA, is provided in **Table 9** below.

Table 9 | Staff travel mode share

Mode	Base mode share	Target mode share
Private car (driver)	91%	34%
Private car (passenger)	0%	17%
Bus	5%	5%
Train	3%	35%
Walk	1%	5%
Bicycle	0%	4%

Traffic generation and intersection performance

The TAIA has determined expected traffic generation due to the proposal based on staff travel mode surveys, operation of similar schools and student travel mode surveys. The trip generation has been calculated based on 1001 students (including preschool and support unit) at school opening (2023) and 1280 students in 2033. The projected full time equivalent (FTE) staff count at school opening (2023) and in the 10-year horizon (2033) are assumed to be 75 and 98 respectively.

Table 10 provides details of the estimated traffic generation due to the development in the year 2023 and 2033. The TAIA notes that no background traffic growth is applied in the modelling as the area surrounding the site is already developed.

Table 10| Vehicular trip generation per hour during AM and PM school peaks (Source: Applicant’s EIS 2021)

	AM peak	PM peak
2023	205 vehicles (396 vehicle movements)	191 vehicles (390 vehicle movements)
2033	263 vehicles (508 vehicle movements)	255 vehicles (500 vehicle movements)

Based on the above assumptions, the TAIA includes modelling of the intersections considering the base scenario in 2023, the traffic generation due to the school (2023 with development), the proposed upgrades surrounding the site as well as the proposed mitigation measures, both in 2023 and in 2033. A comparison of the intersection performances in the various scenarios is provided in **Table 11**.

Table 11 | Intersection performances and comparisons in 2023 and 2033 (Source: Applicant's EIS 2021)

Intersection	Control	LoS	LoS	LoS	LoS	LoS	LoS	LoS	LoS	LoS
		2023 AM Base	2023 PM Base	2023 AM Base + development	2023 PM Base + development	2023 AM development + mitigation	2023 PM development + mitigation	2033 AM development	2033 PM development	2033 AM development + mitigation
Goulburn Street/ Campbell Street	Signalised	A	A	A	A	A	A	A	A	A
Lachlan Street/ Goulburn Street	Roundabout	B	A	B	A	B	A	B	A	B
Lachlan Street/ Forbes Street	Priority	B	A	F	B	B	B	B	A	B
Lachlan Street/ Drummond Street	Priority	A	A	B	A	B	A	B	B	B
Lachlan Street/ Burnside Drive/ Hart Street	Priority	A	A	B	A	C	A	D	A	A
Burnside Drive	Priority	A	A	A	A	A	A	A	A	A

The comparison concludes that majority of the identified intersections would operate satisfactorily in the 2023 development scenario, except the Lachlan Street/ Forbes Street intersection which is expected to operate with a LoS F in AM peak. To mitigate this impact and improve the intersection performance to LoS B, the TAIA recommends:

- a left-in/ left-out restriction for Forbes Street north (via a pedestrian refuge island).
- a right turn for Forbes Street (south) on to Lachlan Street.

SIDRA modelling for the 2033 development scenario (10-year horizon) identifies that the Lachlan Street/ Burnside Drive/Hart Street roundabout would operate at a LoS D during the AM peak. Additionally, the average queue length for the northern approach would be 77m extending to Hart Park, which is considered unacceptable.

The TAIA suggests the following potential mitigation measures to improve the operation of the Lachlan Street/ Burnside Drive/ Hart Street roundabout in 2033:

- reduce the car mode share through the implementation of the STP (as discussed earlier), include this measure at the adjacent high schools (LBHS and LGHS) and separate school start times to distribute the peak traffic volumes.

Or

- alternately implement a physical mitigation measure, in the form of an additional 10m long short approach lane on the northern approach.

The TAIA concludes that the above mitigation measure would improve the performance of this intersection to LoS A and reduce the queue lengths (as identified in **Table 11**).

Submissions and agency advice

During EIS exhibition, Council raised no specific concerns regarding the traffic generation due to the development and the proposed mitigation measures. TfNSW also raised no specific concerns and recommended conditions regarding the implementation of the school zone speed limits and updating the STP incorporating certain requirements.

NSW Health and the Department reviewed the EIS and raised concerns that the walking rate (50%) and reduction of vehicle usage (from 91% to 34%) adopted by the TAIA may not be achievable, noting the lifestyle in Liverpool CBD area, which indicates a high car dependence (noted in case of similar schools in the locality).

The Department also raised concerns that the proposed mitigation measures (in 2033) at the Lachlan Street/ Burnside Drive/Hart Street roundabout are reliant on two other schools and therefore the reduction in the car usage may not be achieved over time. Consequently, the Applicant should confirm whether the alternate physical mitigation measure is proposed to be implemented.

Applicant's RtS

In response, the Applicant's RtS reiterated that the walking mode share of 50% has been assessed based on existing student depersonalised residential data and walking catchments, with details provided in the STP. The STP provides two targets, moderate and reach scenarios, in which 60% and 70% walking rates, would likely be achieved respectively, based on proposed walking and cycling infrastructure upgrades (discussed later).

The higher (80%-90%) staff car mode shares for Liverpool West Public School and Liverpool Public School (being similar schools in the locality) are due to high on-site parking provision and on-street parking availability. NLPS would not provide a similar experience for staff, with limited on-site parking, which would automatically result in high use of active and public transport.

The RtS also indicated that the prior to the opening of NLPS, several pedestrian infrastructure upgrades would be implemented to encourage walking. Additionally, the STP includes a number of strategies such as: travel coordinator, ride/walk to school day events, walking buddy program, staff carpooling, parent's carpooling to encourage the use of alternate transport modes. The Applicant did not provide an updated STP as suggested by TfNSW.

With regard to the upgrade to the Lachlan Street/ Burnside Drive/Hart Street roundabout, the Applicant's RtS confirmed that this would only be undertaken if the car travel mode reduction is not achieved. As such, the car travel mode reduction for the adjoining high schools is undertaken separately and does not form a part of this SSD. No further details were provided in this regard.

The Department have not received any specific comments from NSW Health in relation to traffic generation and/or walking travel modes. TfNSW reviewed the RtS and indicated that the STP should be updated prior to the commencement of operation of the school.

Department's assessment

The Department has reviewed the Applicant's EIS, RtS and the submissions. The Department considers that except for the Lachlan Street/ Burnside Drive/Hart Street roundabout LoS in 2033 AM, all other intersections would perform satisfactorily in the future subject to the implementation of the STP and the physical mitigation measures.

The Department notes that the Applicant seeks to achieve a high walking and active travel mode for NLPS in the future to reduce the overall car usage. The Department supports the Applicant's approach and considers that this may be achievable as the Liverpool CBD including the site is well connected to public transport. Additionally, several pedestrian infrastructure facilities (discussed in **Section 6.2.2**) are proposed to be implemented in the future by the Applicant, NSW Health and Council to facilitate a better walking environment. Subject to implementation of conditions of consent in relation to delivery of the STP, pedestrian facilities and cycling infrastructure in the future, private car usage would reduce and the traffic generation due to the development would be managed efficiently.

However, the Department raises concerns regarding the performance of the Lachlan Street/ Burnside Drive/Hart Street LoS in 2033 AM peak and does not agree to the approach proposed by the Applicant to mitigate the traffic impacts at this intersection. The proposed mitigation measures rely on the reduction of car usage in two other schools, which have not been included in the overall STP for NLPS. There is no evidence provided as part of this assessment to confirm what the mitigation measures are and how they would be imposed in relation to these existing schools, have been operating for some time and do have "*entrenched cultures*". Further the Department considers the goal for 60 - 70% of children to walk to school to be ambitious. The Department considers that further certainty is required to ensure that a physical mitigation measure (as proposed) is implemented at this intersection in the instance that the car usage reduction is not achieved at LBHS and LGHS.

Consequently, the Department recommends a condition requiring the Applicant prepare an updated traffic and parking assessment report, 10 years (or prior to student numbers reaching 1200, whichever is earlier) following commencement of operation of the NLPS, to:

- include an assessment of the performance of the Lachlan Street/ Burnside Drive/Hart Street roundabout (including degree of saturation, delays and queuing).
- include details of amended traffic volumes considering the implementation of the STP for NLPS and the two adjoining high schools which would result in the car travel mode reduction.
- provide details of the LoS of the Lachlan Street/ Burnside Drive/Hart Street roundabout at the time of the traffic assessment.

If the traffic assessment results show that the above roundabout operates at an unsatisfactory LoS at the time of the traffic assessment due to the traffic generated by NLPS, the Applicant must then provide the Department with suitable mitigation measures to improve the performance of the intersection to LoS B (as recommended in the TAIA) including any physical mitigation measure that may be required. The measures should then be implemented by the Applicant in consultation with the relevant roads' authorities including NSW Health (where needed).

The Department considers that this approach would provide an opportunity to assess the impacts of the development after the school is operational and if the STP is implemented successfully, then physical mitigation measures would not be required. The Department has extensively engaged with the Applicant during the assessment of the application and discussed the recommended condition Applicant has agreed to this approach.

6.2.3 Pedestrian and cycling Infrastructure

The primary pedestrian access to NLPS is from Lachlan Street, whereas a secondary pedestrian and cyclist entry is provided from Burnside Drive. **Figures 24 and 25** provide a summary of existing and future pedestrian infrastructure in the surrounds.

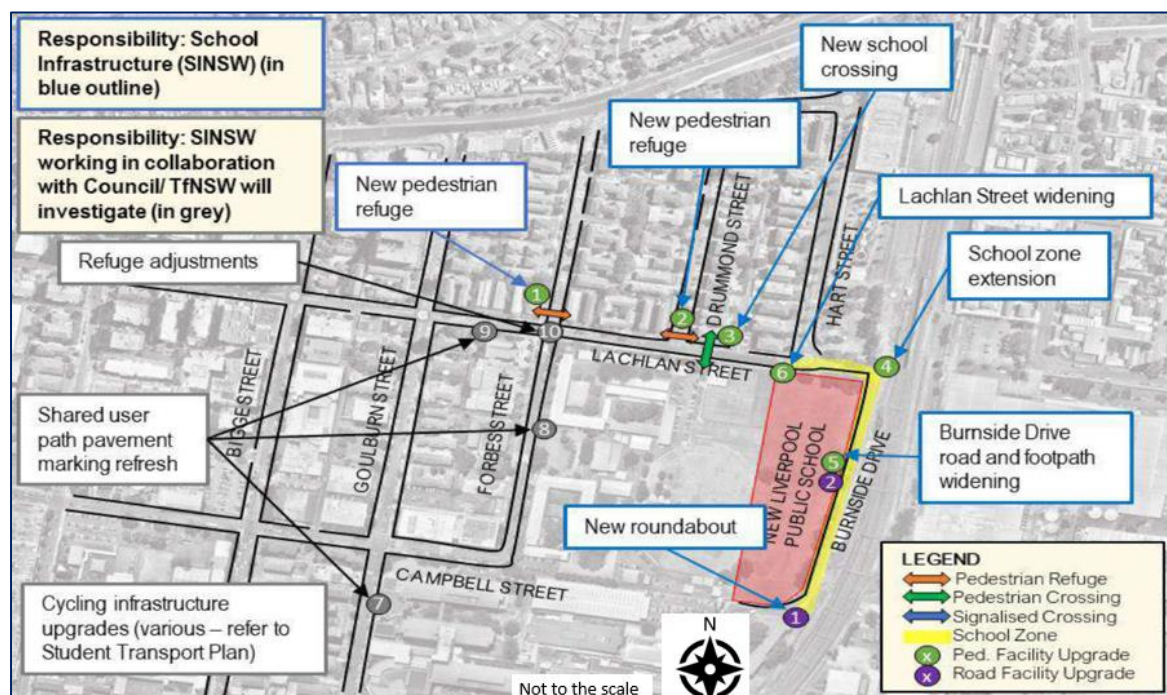


Figure 24 | Proposed pedestrian infrastructure (Source: Applicant's EIS 2021)

No.	Location	Upgrade	Responsibility/ Action	Time Frame Recommendation
1	Lachlan Street/ Forbes Street intersection	Intersection improvements to Forbes Street (North) to provide left in/ left out only with island treatment on the northern approach to intersection to include a pedestrian refuge. Adjust kerb ramp on north-west corner to point across Forbes Street rather than into intersection.	School Infrastructure (SINSW)	Prior to school opening
2	Lachlan Street/ Drummond Street intersection	New refuge island on the northern approach of the Lachlan Street/ Drummond Street intersection	School Infrastructure (SINSW)	Prior to school opening
3	Lachlan Street (between Drummond Street and Lachlan Lane)	Install new school crossing and appoint crossing supervisor.	School Infrastructure (SINSW)	Prior to school opening
4	Burnside Drive	Extend school zone to Burnside Drive	Transport for NSW in consultation with Health Infrastructure	Prior to school opening
5	Burnside Drive footpath (western side)	Widen existing footpath to 2.5 metres	School Infrastructure (SINSW)	Prior to school opening
6	Lachlan Street footpath (at school boundary)	Widen existing footpath as detailed in the Student Transport Plan	School Infrastructure (SINSW)	Medium term (up to 5 years)
7	Goulburn Street footpath (eastern side) between Elizabeth Street and Lachlan Street	Refresh shared user path pavement marking	SINSW working in collaboration with Liverpool City Council will investigate	Short term (up to 2 years)
8	Lachlan Street between Goulburn Street and Hart Street	Refresh shared user path pavement marking	SINSW working in collaboration with Liverpool City Council will investigate	Short term (up to 2 years)
9	Forbes Street between Campbell Street and Lachlan Street	Refresh shared user path pavement marking	SINSW working in collaboration with Liverpool City Council will investigate	Short term (up to 2 years)
10	Lachlan Street/ Forbes Street intersection	Replace existing low-form refuge islands with compliant refuge island.	SINSW working in collaboration with Liverpool City Council will investigate	Short term (up to 2 years)
	Various locations	Construction of shared path infrastructure components as identified in the Liverpool Bike Plan and detailed in the Student Transport Plan	SINSW working in collaboration with Liverpool City Council will investigate	Medium term (up to 5 years)

Figure 25 I Proposed pedestrian infrastructure summary (Source: Applicant's EIS 2021)

As evident from **Figures 24** and **25**, the Applicant proposes several measures in the short and long term to encourage walkability and active transport around the site and achieve the reach mode share targets (60 – 70% for walking) in the long term, as identified in **Table 8**. The widening of the Burnside Drive footpath (under a separate planning pathway), the footpath on Lachlan Street and the proposed pedestrian refuges at various locations would likely result in more students walking to/from the school.

Improvements to the Lachlan Street/Forbes Street and Lachlan Street/Drummond Street intersections with pedestrian refuge (to improve the east-west pedestrian movements) and a school crossing on Lachlan Street are proposed to be delivered prior to the school opening. Crossing supervisors would monitor pedestrians and facilitate crossing in groups to maximise visibility of pedestrians and reduce traffic delays.

The Applicant also proposes a bicycle parking area with 60 bicycle spaces on the southern side of the school buildings. Shared pathways within the site and end-of-trip facilities are proposed to encourage the use of bicycles in school (identified in **Figure 26**).

The remaining facilities and improvements to the cycling infrastructure are proposed to be delivered over a 2 to 5-year horizon in collaboration with other agencies, consistent with the Liverpool Bike Plan.

Submissions and Agency advice

TfNSW reviewed the application and recommended that the Applicant should consider providing shared path facilities on the site frontages and integrate the surrounding pedestrian and cycling network. TfNSW also commented that the proposed development should provide adequate pedestrian and cycling management facilities.

NSW Health supported the proposed measures to encourage walking and cycling. However, NSW Health advised that, the location of the Lachlan Street roundabout is not ideal for the school and would discourage students from walking. Instead, a priority wombat crossing directly outside the NLPS entry on Lachlan Street should be proposed. NSW Health suggested a number of measures including redirection of traffic along Forbes Street, Drummond Street and closure of Hart Street at the intersection to prioritise Lachlan Street as the walking route, both for the purpose of the school and the hospital.

In this regard, NSW Health commented that the design should follow 'Healthy Street Approach', adopted by Liverpool Council, including a separate cycling and walking space to reduce conflict between cycle and turning vehicles.

NSW Health also commented that the streets in the school catchment area, north of Campbell Street are not designed for safe walking and cycling due to lack of midblock crossings or pedestrian crossings on the northern sections of Bigge Street, George Street or Macquarie Street.

GANSW recommended that the Applicant should relocate the bike parking closer to the entries and away from the waste area as bikes and scooters are likely to be a popular mode of transport.

Council initially commented that the proposal does not provide safe cycling infrastructure, appropriate for all ages.

Applicant's RtS and SRtS

The Applicant's RtS responded to the concerns of NSW Health and advised that no pedestrian refuge is proposed outside the school on Lachlan Street and that the roundabout on Lachlan Street is existing, located further east of the school entry. A continuous footpath is available along the southern side of Lachlan Street which, in conjunction with the proposed school crossing would facilitate the walkability of the students. However, a combined school/ wombat crossing, in lieu of the school crossing can be considered in consultation with TfNSW in the future.

The Applicant reiterated that the cycling infrastructure would be provided over time and integrated with the walking routes in collaboration with the other Government agencies and Council.

In response to GANSW comments, the Applicant did not relocate the bicycle parking area but included pathways connecting this area with the site to facilitate a suitable walking/cycling path. Council raised no further concerns with regard to pedestrian facilities. TfNSW advised that the Applicant should further explore the integration of cycling and pedestrian infrastructure.

NSW Health reviewed the RtS and SRtS and recommended further improvements to Burnside Drive to facilitate a better walking environment including a continuous footpath along the entire frontage of the site extending across the proposed roundabout, kerb ramps at same level as the footpath etc.

Department's assessment

The Department has reviewed the Applicant's EIS, RtS, SRtS and agency advice and Council's submissions. The Department agrees with the Applicant that the existing footpath on Lachlan Street and the proposed school crossing would be suitable to facilitate walkability of the students at the school opening year. The students would be able to continue walking along Burnside Drive due to the proposed improvements to this road including the proposed 2.5m wide footpath along the school frontage.

Given that the majority of the school pedestrian traffic would be from the north and west, the Lachlan Street/Hurt Street/Burnside Drive roundabout should not interfere with the walking movements of the students. The replacement of the school crossing with a wombat crossing on Lachlan Street has not been recommended as part of this development and would require warrants assessment by TfNSW. Considering this, the Department does not consider this to be relevant to the application. The Applicant can undertake further consultation with TfNSW in this regard in the future when delivering the STP.

The Department notes GANSW's comments and agrees that the location of the bicycle parking area is not ideal. However, relocation of the bicycle spaces closer to the entries would compromise peripheral landscaped areas and may interfere with the internal courtyards within the NLPS. Consequently, the Department agrees with this location and has recommended conditions of consent to ensure improved connectivity and signage with this area from the Burnside Drive frontage of the school along with end-of-trip facilities for staff.

The Department has also recommended conditions of consent to ensure:

- the satisfactory delivery of all proposed pedestrian facilities consistent with the STP.
- the Applicant provides annual updates on the delivery of the future pedestrian infrastructure in the 2 – 5 horizon, post operation of the school.

6.2.4 Drop-off/pick-up zone

The proposal provides 25 drop-off/pick-up spaces for 1280 students including 40 preschool students. To facilitate the provision of the drop-off/pick-up zone, Burnside Drive is proposed to be widened by 2.5m on the western side, (under a separate planning approval pathway).

The TAIA has undertaken a detailed assessment of the adequacy of the drop-off/pick-up zone based on a car mode share of 45% (worst case scenario) and an average turnaround time of 2 mins. Based on this, 23-25 spaces are deemed suitable for 1200 students (excluding special support unit and

preschool). Traffic marshals would also be utilised to direct traffic in the first year of the school. The drop-off/pick-up zone on Burnside Drive is identified in **Figure 26**.



Figure 26 | Proposed traffic infrastructure (Source: Applicant's SRtS 2022)

Submissions and Agency advice

Council reviewed the application and recommended conditions for signage to limit parking within drop-off/pick-up zone and delivery vehicle within this zone.

The Department raised concern that the preschool students cannot use the drop-off/pick-up spaces if the parents arrive at the same time as the school peak hours or if a family includes one sibling in the preschool and one in the primary school because the parents of the children are required to be signed in and out of the preschool. In this scenario, no additional parking facilities are proposed for preschool or the special support unit students, who would likely need assistance to access their classrooms.

Applicant's RtS and SRtS

The Applicant's RtS and SRtS confirmed that the preschool drop-off/pick-up times and the primary school drop-off/pick-up times would likely not overlap. The Applicant proposes to allocate four car spaces along Burnside Drive (within the designated drop-off/pick-up zone) with 15-minute restricted

parking between 7am to 8am and 4pm to 6pm to cater for the preschool parents during peak hours. The Applicant indicated that the provision of four parking spaces complies with the LDCP 2008 requirements.

Notwithstanding, the Applicant also proposes to allocate, three on-street parking spaces on the Lachlan Street frontage of the street with 15-minute parking restrictions between 8am - 9:30am and 2:30pm - 4pm (subject to consultation with and endorsement from Council) for use by the preschool users. The parking allocation for preschool students is provided in **Figure 27**.



Figure 27 I Parking provision for preschool (Source: Applicant's SRtS 2022)

The Applicant advised that one car space would be available within the drop-off/pick-up zone for the special support unit and the students would be escorted from this space to the classrooms.

Department's assessment

The Department has considered the Applicant's information and is satisfied that the proposed drop-off/pick-up area would be adequate for NLPS in the year of opening. However, the Department notes that the drop-off/pick-up zone assessment has been undertaken on the basis of observations of the operation of other schools that are not located nearby. Therefore, the relevance of the assessment in the context of Liverpool CBD is unclear. Additionally, the Applicant relies on a high walking mode share in the future to ensure the adequate operation of the drop-off/pick-up zone with 25 spaces. If the drop-off/pick-up zone does not operate as desired, it would lead to congestion on Burnside Drive, queuing across the southern roundabout and may also impede the movement of hospital traffic including emergency vehicles or ambulances.

In terms of management of the drop-off/pick-up zone, the Department considers that the Applicant has not clarified the use of the parking areas outside of the school use. Burnside Drive is not a public road, and the drop-off/pick-up zone is proposed to be created within the site boundary. Consequently, Council cannot police the use of the parking spaces throughout the day and ensure that all 25 spaces

are available for school use during the peak times and not used by hospital visitors and/or general public.

Noting all of the above uncertainties the Department has recommended that:

- the Applicant monitors the adequacy of the drop-off/pick-up zone in various scenarios including:
 - between 12 – 24 months of commencement of operation.
 - the 5-year horizon.
- The Applicant provide details of additional management and mitigation measures to the Department, if the monitoring concludes that the drop-off/pick-up zone is not operating as desired.
- no student increase beyond that existing at the time of the monitoring, be permitted if the proposed mitigation measures are not implemented (if needed).
- the management and policing of the drop-off/pick-up zones be clearly outlined in the transport operational management plan which would form part of the STP in the future.

Subject to the requirements above, the Department is satisfied that delivery of the STP in the future would ensure that the car usage mode further reduces easing the pressure on drop-off/pick-up zone.

The Department also agrees that majority of the preschool students would be dropped off and picked up before and after the school times. The Department acknowledges that the families with a mix of preschool and primary school students, may need to utilise on-street car parking and walk to the school. However, such families would be low in numbers and therefore this situation would be acceptable.

6.2.5 Staff car parking

The Applicant proposes a car park with 33 car spaces for the staff members (75 – 98), to the south of the playing field (under a separate planning pathway). The car park would be accessed from Burnside Drive as identified in **Figure 26**.

The TAIA notes that the proposed car parking provision is much lower than the requirements of the LDP 2008. However, the non-availability of the car spaces within the site would encourage active and sustainable transport mode usage and assist in delivering the STP in the future. In this regard the TAIA indicates that existing on-street parking availability is limited due to high demand from other surrounding land uses (the adjacent high schools and hospital). Unrestricted parking areas on Lachlan Street and Forbes Street are heavily utilised, presenting 91-100% occupancy at 7am and sustaining this level of occupancy throughout the day. This factor would further disincentivise single-occupancy car travel to NLPS due to the perceived challenge of finding a parking spot near the site.

The Department notes that Council initially raised some concerns regarding the unavailability of car parking within the site.

However, the Department agrees with the Applicant's approach and considers that this would encourage the use of active and public transport in the future for the staff members. Consequently, the Department is satisfied that the proposed staff car parking provisions would be adequate to cater for the development in the future.

NSW Health have enquired whether the design of the roundabout on the southern side of Burnside Drive would have any impact on the design and entry to the staff car park.

The Department has reviewed the submitted plans and considers that the delivery of the southern roundabout may require some land from the site, which in turn may result in alterations to the design of the staff car park. Given that these works are not included within the SSD, the Department has not requested further clarification from the Applicant in this regard.

However, given the SSD application is fully dependant on the successful delivery and operation of this roundabout, the Department has recommended conditions requiring the Applicant to demonstrate that the staff car park can satisfactorily accommodate the 33 car spaces, complying with the relevant Australian Standards including manoeuvring areas. The Department considers that the Applicant should also adjust the site boundary (if needed) to facilitate the construction of the roundabout and the staff car park suitably, in consultation with NSW Health.

6.2.6 Bus zone and service vehicle access

School bus

The Applicant relies on public transport usage to a substantial extent and therefore proposes a 48m long bus zone on Lachlan Street for school buses, with bus stop to facilitate school bus movement around the site.

NSW Health enquired whether buses would use Burnside Drive and whether roundabout is designed to facilitate this.

In response the Applicant advised that the buses would only utilise Lachlan Street and conduct a U-turn around the Lachlan Street/Hart Street roundabout.

The Department considers the Lachlan Street frontage to be suitable for a future bus zone and has recommended conditions to this effect.

Service vehicles

The Applicant proposes to restrict the service/waste collection vehicle access to the southern side of the school buildings, adjoining the bicycle parking area as identified in **Figure 26**. The waste collection area (approval sought under separate planning pathway) would be designed to facilitate MRV access.

The Department and other Government agencies had requested the Applicant to provide details of manoeuvring of a MRV within this area.

In response, the Applicant submitted satisfactory information to demonstrate that an MRV can suitably manoeuvre within this area in a three point turn utilising Burnside Drive.

The Applicant has also indicated that an area within the drop-off/pick-up zone would be designated as the loading zone (for service vehicles) for the school, outside of the school peak times. The Department has recommended a condition to this effect.

The Department notes that manoeuvring of an MRV may result in some conflict with the drop-off/pick-up zone due to the need for the vehicle to reverse on to Burnside Drive. Consequently, the Department has recommended a condition that the waste collection vehicles do not access the site during the school AM and PM peak times.

6.2.7 Works within Burnside Drive

As noted in the previous sections, the Applicant proposes to undertake a range of traffic related works within Burnside Drive (including road widening, footpath, roundabout at the southern end, provision of drop-off/pick-up areas and associated public domain works) under a separate planning pathway.

Burnside Drive is owned by NSW Health. The Applicant has advised the consultation with the Government agency is ongoing in this regard, however an agreement has not been reached regarding these works on Burnside Drive. The Department has engaged both with the Applicant and NSW Health and notes that a final agreement between the agencies has not been reached regarding these works. Notwithstanding, NSW Health have recommended that the footpath along Burnside Drive be extended along the entire frontage and across the proposed roundabout, be 2.5m wide and include a 1m wide planted verge. NSW Health have also enquired about the feasibility of construction of the roundabout without impacting on the land for the staff car park. This matter is discussed in **Section 6.2.5**.

Given that the above works are outside the scope of the SSD application, the Department does not consider that the determination of the SSD application is reliant on an agreement between the two agencies. However, the Department acknowledges that the proposed works within the SSD application, cannot be delivered satisfactorily, without the completion of the works within Burnside Drive. Consequently, the Department considers that an agreement between NSW Health and the Applicant is required to be reached to ensure appropriate certainty regarding the delivery of the works proposed under this SSD application.

Noting the above, the Department has recommended conditions of consent to ensure that an agreement is reached between the Applicant and NSW Health in relation works proposed within Burnside Drive as well as the stormwater works (to be discharged on to Burnside Drive), prior to any construction commencing on the site. The Department has also recommended that all works within Burnside Drive are delivered concurrently with the SSD and are completed prior to the operation of the school along with the requirements (of footpath width and planted verge recommended by NSW Health).

The Department is satisfied that subject to the implementation of the above conditions, the SSD application would achieve the outcome as desired by the Applicant.

6.2.8 Construction traffic

A preliminary Construction Traffic and Pedestrian Management Plan (CTPMP) is included in the TAIA which details construction vehicle movements, truck and crane unloading details, routes of travel, parking and access arrangements, pedestrian management provisions, and measures to address potential impacts. The Applicant states the construction of the NLPS would approximately be completed in 10 months.

During the peak construction time, up to 50 construction workers are expected to access the site. Due to the size of the site all construction worker vehicles can be accommodated on site. Construction workers would not be permitted to park on local streets. If additional parking is required outside the on-site compound, an overflow car park would be provided, located approximately at a 5-minute walking distance from the site (**Figure 28**).

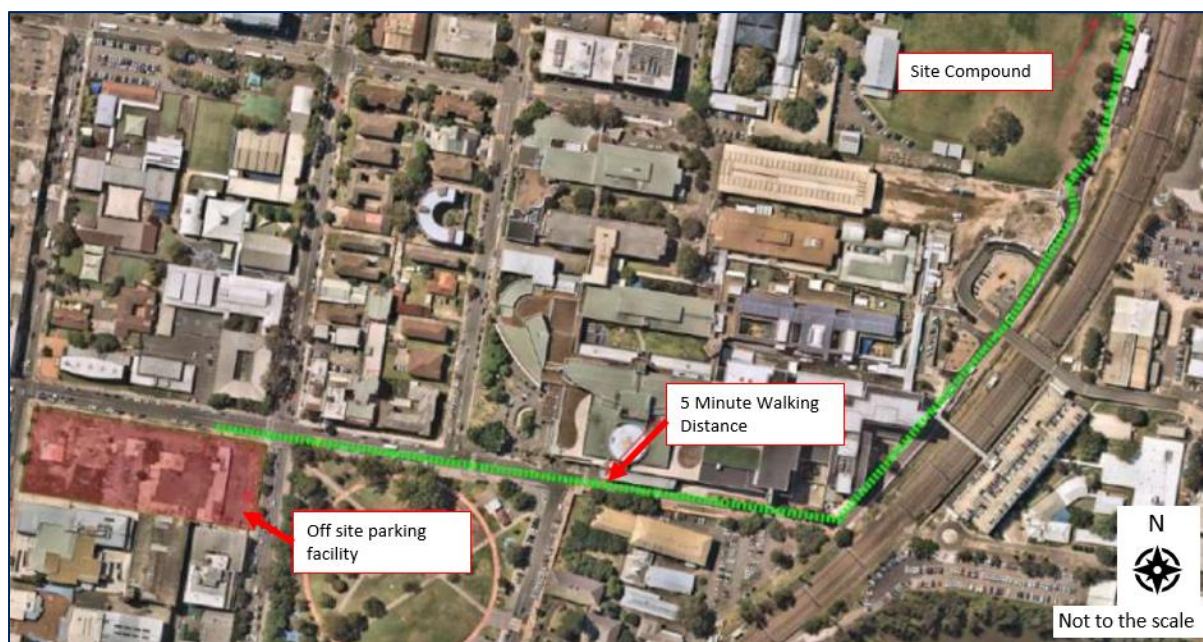


Figure 28 I Pedestrian access to overflow parking on Elizabeth Street (Source: Applicant's EIS 2021)

Given the site's proximity to high frequency train services (Warwick Farm Station and Liverpool Station) with a range of origins/ destinations, workers would be encouraged to use public transport to access the site where practical.

The CTPMP advises that various types of construction vehicles would access the site, the largest standard construction vehicle 12.5m heavy rigid vehicles (HRV). It is likely that a limited number of larger special-purpose vehicles (e.g. floats for plant and equipment, large mobile cranes) would be required, however these would be subject to a separate oversize and over-mass application process, with analysis of the specific vehicle access and manoeuvring requirements. Overall, between 10 – 20 heavy vehicles are expected to access the site per day, depending on the peak construction phases. The access routes for construction vehicles to the site is outlined in **Figure 29**.

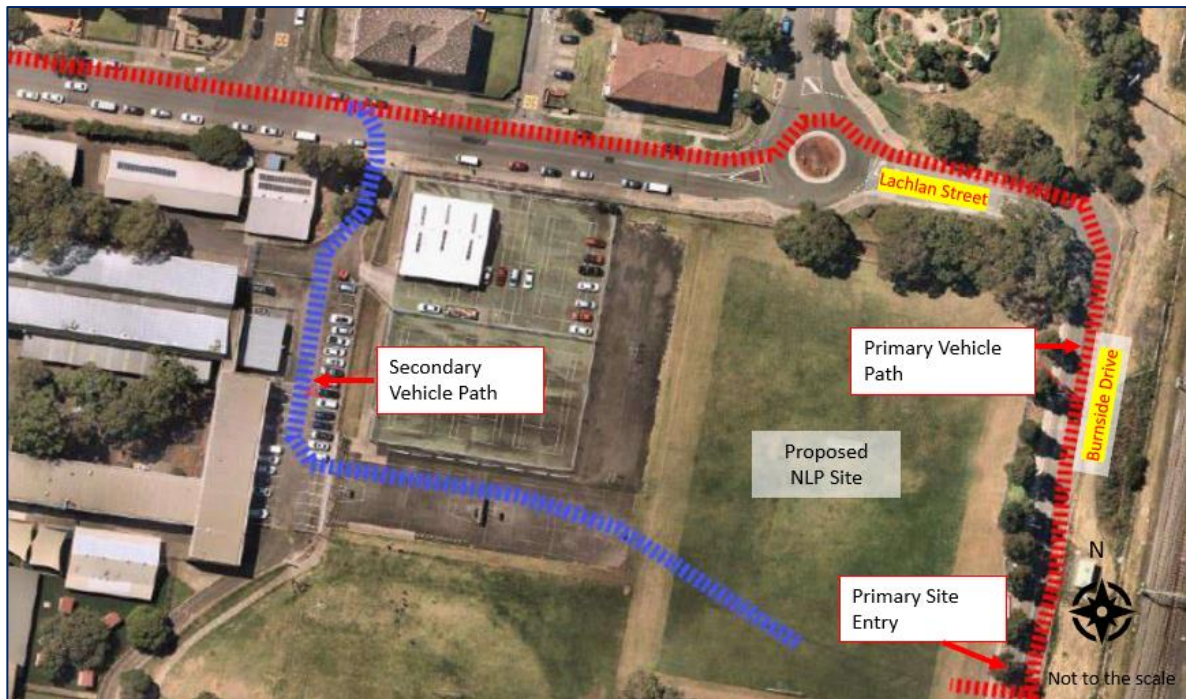


Figure 29 | Site access route for construction vehicles (Source: Applicant's EIS 2021)

The CTPMP confirmed the vehicle haulage routes and that access was only to be provided from Lachlan Street. Given the space available within the construction site, all vehicles would be able to manoeuvre on site, entering and exiting in a forward direction and returning along the approach route.

TfNSW and Council have recommended several conditions for inclusion in the final CTPMP.

The Department accepts the Applicant's assessment of construction traffic and notes the surrounding road network can accommodate the expected heavy vehicle movements. Road closures would be subject to appropriate approvals and impacted residents would be consulted. Based on the above, the Department has recommended conditions requiring the preparation and implementation of a final CTPMP along with a construction worker transportation strategy. Subject to these conditions, the Department considers that construction traffic and parking impacts can be appropriately managed.

6.3 Built form and urban design

6.3.1 Building height, setbacks, and floor space ratio

The proposed new buildings are part two - three storeys in height and would result in a maximum building height of 14.8m which complies with LLEP's maximum building height requirement of 34m. The height and bulk of the new buildings are much lower than Liverpool hospital, surrounding developments within the adjoining streetscape which generally comprises three-four storey residential flat buildings.

The multi-purpose hall and associated store building located at the corner of Lachlan Street and Burnside Drive would be two storeys and address the street corner appropriately.

The built form within the site is identified in **Figures 14 – 17**. The view of the proposed development from Hart Street is provided in **Figure 30**.



Figure 30 | Proposed and surrounding buildings - view from Hart Street, looking south (Source, Applicant's EIS 2021)

The Applicant's EIS states that the two-storey multi-purpose hall facing Lachlan Street would respond to the residential form across the road. The form and scale of the building also provides a high level of amenity to teaching spaces, including appropriate solar access, shading, outlook and ESD initiatives.

As identified in the site plan in **Figure 5** and **Figure 6**, the proposed buildings have been setback 6m from Lachlan Street, 5.5 - 7m from Burnside Drive and 6m from the LBHS playing fields to the west.



Figure 31 | Proposed school building (classrooms - north-west) and surrounding buildings as viewed from Lachlan Street, looking east (Source: Applicant's EIS 2021)

The maximum FSR on the site is 2.5:1, as allowed under the LLEP. The proposed development would result in an overall FSR of 0.35:1, complying with the applicable FSR control for the site.

GANSW have not raised any specific concerns regarding the building bulk, scale, height or setbacks to the surrounding streets.

Department's assessment

The Department considers that the proposal would provide a new multi-level school that would renew and strengthen the Department of Education's presence within its locality.

The proposed building setbacks assist in recessing the built form from the street with opportunities for peripheral landscaping. The setbacks also help to reduce the overall scale of the built form, when viewed from the adjoining streets and residential properties.

The Department supports the overall building bulk, which is considered appropriate within the streetscape and locality context.

However, the Department considers that the setback of the school building from the LBHS site (to the west) is not adequate. The lack of setback has resulted in the high school basketball court being located too close to the school building and may result in adverse noise impacts during sports in the fields. While several requests from GANSW regarding additional landscaping (discussed later), the Applicant has not proposed any additional planting along this setback, which would assist in screening the two schools and encourage additional shading. Based on the comments from GANSW and noting the lack of separation between the two schools at this interface, the Department has recommended a condition to include columnar trees within this setback to assist with screening.

The Department notes that the Applicant proposes a pathway along this setback, with no reasonable setback provided for planting. The Department considers that tree species should be chosen in such a way that they can be accommodated in this area along with a narrow pathway, if required.

6.3.2 Building design and site layout

The EIS includes a design report that sets out the rationale behind the proposal and establishes the guiding principles that provide site planning and building design guidance on connecting with country, bulk, scale, setbacks, views/overlooking, streetscape, façade presentation and materials.

The Architectural Design Statement sets out that the proposal is guided by the following principles:

- rationalise the location and orientation of the building based on the requirements of the school, the surrounding developments, street frontages and train, traffic noise mitigation.
- reflect the internal function of the building and also enhance the user's experience in the aesthetics of educational buildings.
- provide a balance between sun and shade, open and closed, private and public, warm and cool, and always safe, and logical.
- maintain consistency of visually pleasing proportion and balance on all four facades of each building.
- modularise the facades through further articulation by vertical and horizontal shade devices, carefully placed to maximise the buildings performance and mitigate heat gain, especially on the east and west elevations.
- set the facade line at the main entry on Lachlan Street, acting as a directional indicator or "signage" as to where to go.
- create playfulness and interest to an otherwise formal façade at the main entry.
- address the necessary environmental performance criteria in the façade design.

The built form as visible within and around the site are provided in **Figures 32 and 33**.



Figure 32 | View from within the site playground towards multi-purpose hall (Source: Applicant's SRtS 2021)



Figure 33 | Burnside Drive entry (Source: Applicant's SRtS 2021)

Government agency advice, submissions, and Applicant's RtS, SRtS

As discussed in **Section 5**, the Applicant has engaged with SDRP and GANSW throughout the assessment process. While the SDRP have generally supported the overall masterplan for the site, GANSW have raised concerns regarding the lack of free-flowing indoor outdoor connection, sun shading along the western façade of the school building, no east-west link between the site and the broader campus, consistent with the Liverpool Innovation Precinct vision, lack of outdoor balconies on

the upper floors and lack of certainty regarding the proposed materials. GANSW advised that Aboriginal culture and heritage should be incorporated holistically in the design of the development.

Council raised concerns regarding the roof form being basic. Whilst cost effectiveness is a key consideration, extending larger eaves overhangs along the western, northern, and eastern sides of all buildings can serve to reduce the ongoing operational costs, particularly in summer months where Liverpool suffers from urban heat island effects. Council also recommended that building elevations could incorporate additional vertical elements to break down the monolithic form of the building and provide the required verticality.

In response to the initial comments, the Applicant made some changes to the design but did not substantially amend the proposal. The RtS indicated that 500mm deep vertical and horizontal sunshades have been provided to the Western façade which work with the ratio of 30% performance glazing to 70% solid façade to achieve a compliant Solar Heat Gain Coefficient of 0.6. The roof design proposes a 1500mm eaves overhang which contributes to shading of L3 windows as demonstrated by mid-summer shading study of the Western Façade.

The Applicant also undertook further consultation with SDRP regarding the overall design of the development including façade articulation and materials and included a 'Connection to Country Strategy' report with various elements within the site plan that would incorporate the Aboriginal culture and heritage values of the site.

GANSW reviewed the RtS and continued raising concerns regarding the uncertainty of the materials and finishes as well as structural materials, which would have an impact on the building design. GANSW further indicated that the western façade needed shading to improve the environmental performance of the building. This can be achieved through boundary planting and façade articulation. Additional comments were provided regarding incorporation of Aboriginal culture and heritage values in the site plan and the need to amend certain sections of the masterplan to achieve these outcomes.

The Applicant has responded to the above concerns and provided a report from a glazing performance expert indicating that further shading of the western façade would obstruct daylight entry into the classrooms, which is not desirable. Consequently, the Applicant has provided certain specifications for the glazing on the western facade and recommended to avoid unwanted thermal load and glare but provide adequate daylight to the classrooms. Detailed drawings of eaves and shading devices on the western façade were also provided.

Department's assessment

The Department has reviewed the Applicant's response and considers the Applicant's design provides a contemporary school building where the design reflects the internal functions of the building. The layout of the buildings around the central courtyard is supported and would assist in ensuring surveillance of the students as well as common play areas for all age groups. The indoor and the outdoor areas connect well at the ground floor level. At the upper levels, open walkways would visually connect the classrooms to the courtyard below.

The site layout provides direct pedestrian connection to the preschool and support units, separated for the school, which is also supported. The location of the multi-purpose hall and the administration areas fronting Lachlan Street would ensure that the presence of the building is emphasised in this context of this streetscape.

Modularisation of the façade establishes a thoughtfully proportioned and balanced design which can respond simplistically to the environmental requirements of each façade aspect. The Department is satisfied that subject to the implementation of the glazing specification on the western façade, the users in the building would have a reasonable thermal experience. The recommended planting of columnar trees along the western boundary would assist with further screening and shading.

The Department notes that the Applicant intends to prepare an Aboriginal Interpretation Strategy and endeavours to consult with the Registered Aboriginal Parties to incorporate Aboriginal cultural elements in the design. Conditions to this effect as recommended.

The Department's assessment of the Connection to Country Strategy, and materials are discussed in **Section 6.3.4**.

6.3.3 Overshadowing impacts

The Applicant's EIS includes shadow diagrams for showing impacts of the shadows of the building on the playing field between 9am and 3pm on 21 June (mid-winter) (**Figure 34**). The analysis shows that the proposed school buildings, would result in some overshadowing across the open space to the south, and to the road reserve to the south-east.

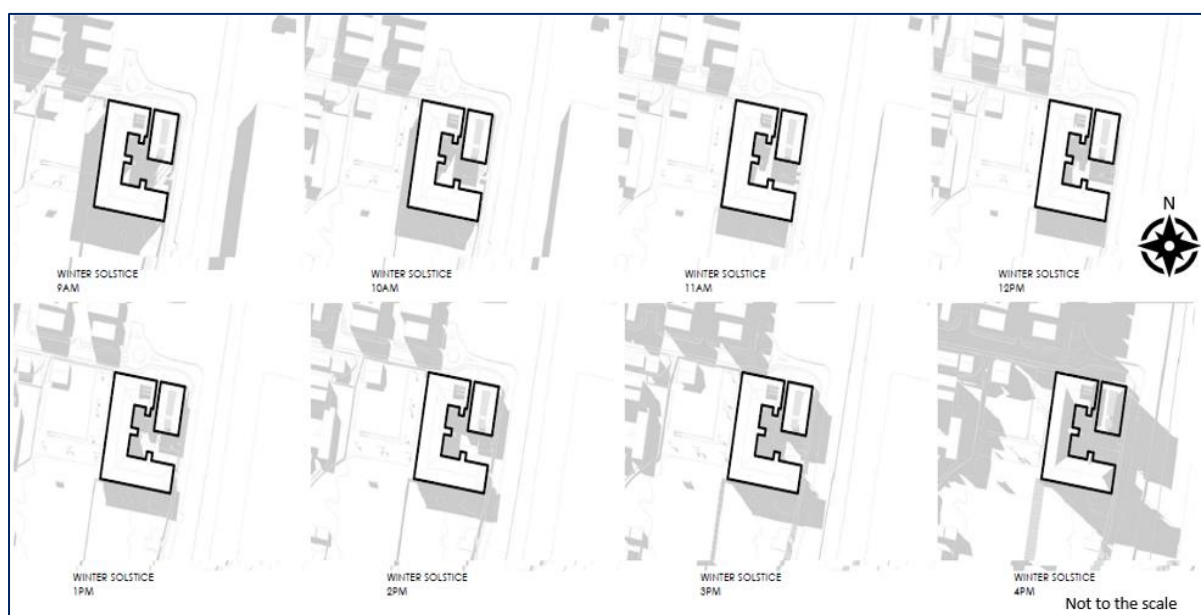


Figure 34 | Shadow diagram, winter solstice (Source: Applicant's EIS 2021)

The Department's assessment of the overshadowing impacts reveals that the overshadowing would be mainly restricted to the northern portion of the playground and the waste collection area.

However, the unencumbered play area for the preschool would be wholly overshadowed during the winter solstice. While this is not considered ideal, the Department acknowledges that the design optimises the location of the open spaces adjacent to the preschool indoor play space and therefore relocation of this play space would not be possible. Noting this site constraint, the Department accepts the location of the play space for the preschool but recommends that safe outdoor heating be considered to ensure an acceptable amenity is provided for staff and students.

The area would receive satisfactory solar access during other times of the year and is assessed as satisfactory in this regard.

6.3.4 Building materials and finishes

As discussed earlier, GANSW raised concerns that the Applicant has provided no certainty regarding the proposed external materials and finishes for the school buildings. In response, the Applicant provided an SRtS which included details of structural and external materials and finishes.

The materials and finishes are identified in **Figure 35**.

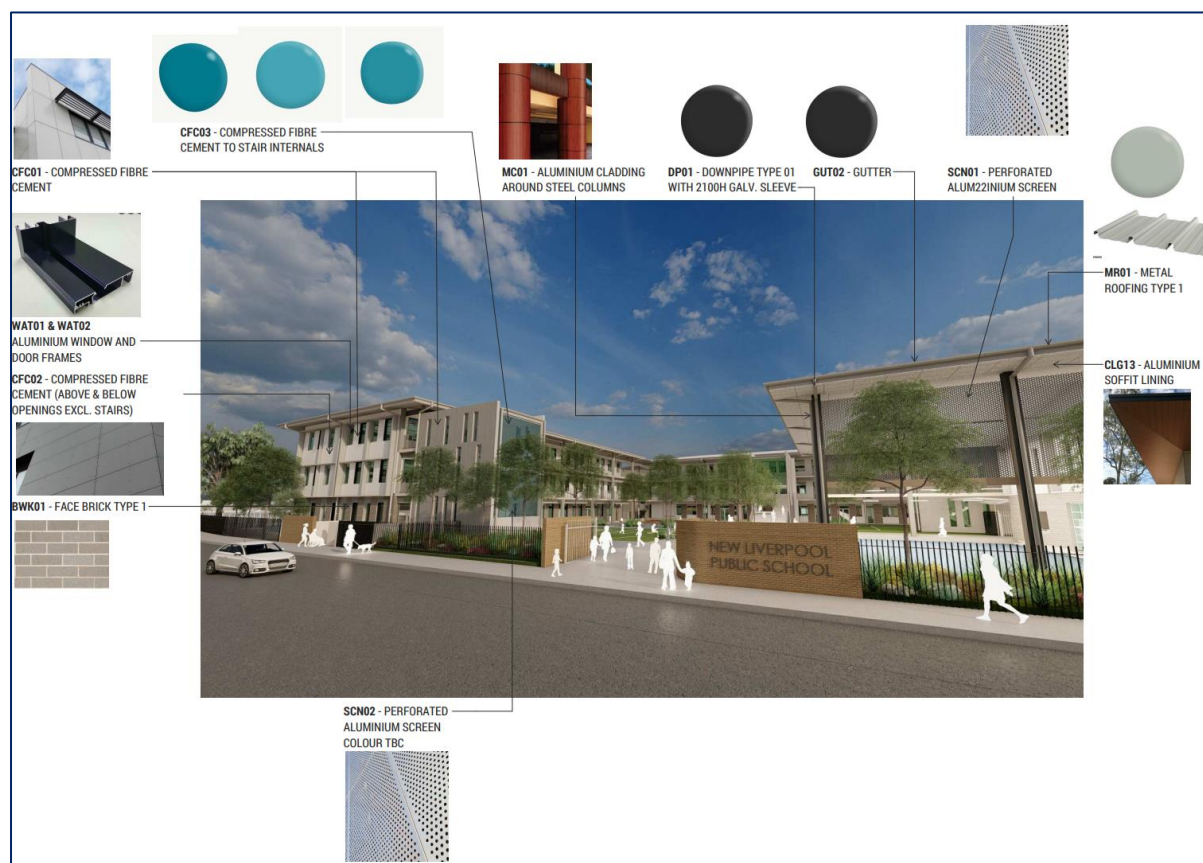


Figure 35 I Materials and finishes (Source: Applicant's SRtS 2022)

Council supported the material palette proposed by the Applicant.

The Department notes that while the Applicant has submitted a detailed materials palette, there is a lack of certainty to implement these final materials in the design. Therefore, the Department has recommended a condition of consent requiring a detailed schedule of materials including balustrade type, fence, gate type and floor finishes, to be submitted prior to the commencement of construction.

6.3.4 Landscaping, tree removal and public domain

The Applicant submitted a Landscape Report and landscape plans with the EIS, which delineated various landscaped areas within the site. The Applicant also included a Public Domain Strategy which includes details of street tree planting, paving, street furniture etc on Lachlan Street.

During the review of the EIS and RtS, GANSW raised several concerns regarding the landscape plan, mainly in relation to incorporation of Aboriginal cultural heritage values in the landscaping elements and engagement with the Aboriginal community during the design process. GANSW also commented that the bush-tucker garden would be completely shaded due to its location on the southern side of the school building.

EES have reviewed the proposal and advised that the planted Chinese Tallow Tree (CTT) should be replaced by an alternate native species.

Endeavour Energy commented that, an appropriate landscaping strip must be provided around the substation area (if proposed). Any landscaping that could potentially transfer or provide connectivity for flame or radiant heat from a fire in the substation to a building should be avoided.

Council reviewed the landscape plans and recommended conditions regarding street tree planting in accordance with Council's CBD Street Tree and Landscape Strategy 2005 and paving details on Lachlan Street. Council recommended that a comparison of the existing and proposed tree canopy cover should be provided, and additional tree plantings should be considered along the interface of the NLPS site with the high schools to provide a separation line and increase the overall tree canopy cover for the site.

Additionally, Council advised that a couple of seating options should be integrated within the landscape which would enable a small number of caregivers to sit down while they wait for their children. In response to the concerns raised by GANSW and other agencies, the Applicant submitted an amended landscape plan with the SRtS. The Applicant states that the landscaping on the site has considered the design planning principle under the State Environmental Planning Policy (Educational Establishments and Childcare Centres) 2017 (Education SEPP) (applicable at the time of lodgement of the application) and the requirements under the EFSG.

The Applicant's landscape design (as amended) considers social interaction, outdoor learning and a variety of play spaces for students. The key elements are identified in **Figure 36** and summarised below.

- entrance from Lachlan Street – retention of existing trees, permeable pavement to allow stormwater infiltration.
- seating/covered outdoor learning areas - spaces are for outdoor use, with a mixture of moveable furniture and timber benches and tables, to be used for spectating and during lunch times.
- nature play - spaces encouraging students to connect with nature. This space will include stepping logs, rocks, and seating areas to accommodate different sized groups.
- active play - a large, flexible open space with a multi-purpose court, line marking for games, table tennis and a climbing wall, to be used for assemblies and large community gatherings.
- kitchen, yarnning circle and bush-tucker garden (respond to the Aboriginal context).

In relation to the location of the bush-tucker garden, the Applicant's SRtS indicated that the bush tucker garden is located on the southern side to connect with the yarnning circle.

The Applicant proposes to remove one dead tree located on the boundary of Burnside Drive. The Arboriculture Report, submitted with the EIS, states that, no visible habitat have been found within the site area that would be impacted by the development (details discussed in **Section 4**). The proposal provides additional 110 native trees planting along the site boundaries which would increase the canopy cover to 26%.

The Applicant has also provided a concept fencing strategy for the school, although the works do not form part of the SSD application.

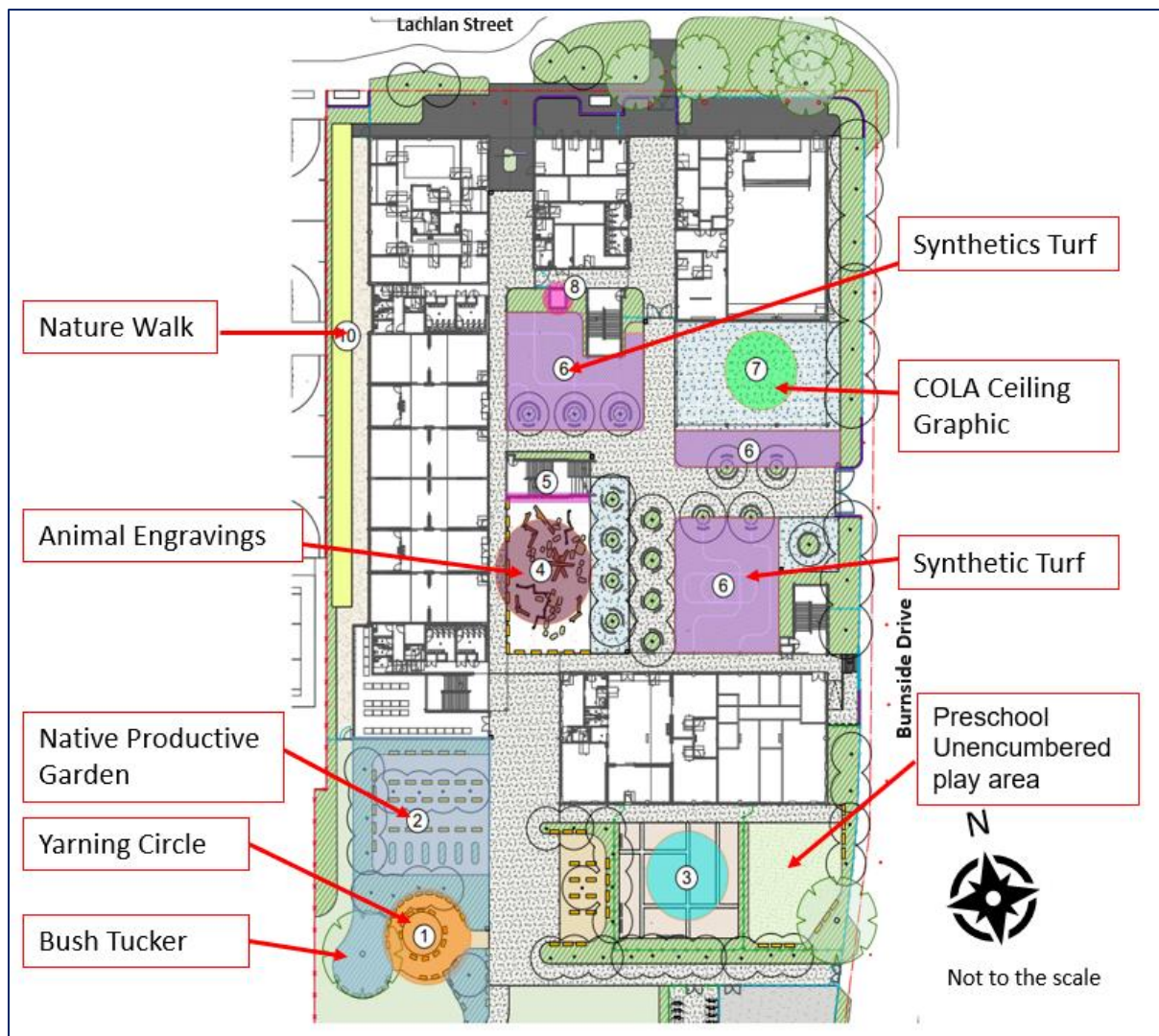


Figure 36 | Landscape plan and key features (Source: Applicant's SRTS 2022)

Department's assessment

The proposed landscaping on the site would provide a variety of play areas, covered learning areas and gathering areas, suitable for the learning needs of the preschool and primary school children. The Department supports the Applicant's approach to landscaping the site and the fencing strategy.

The Department notes that the Applicant endeavours to undertake a reasonable level of engagement with the local Aboriginal community, as evident in the 'Connection to Country Strategy' report. Conditions of consent are recommended to ensure that this engagement occurs effectively, post determination, and that the outcomes of future meetings be translated in the updated landscape plan, that is required to be provided to the Department for approval, prior to the commencement of works.

The Department also notes that while the bush tucker garden would be located on the southern side, it would receive uninterrupted solar access from the western side, which would assist with growing veggies while connecting with the yarning circles.

The Department has considered the comments from Council and agencies regarding planting along the western boundary. The treatment of the interface between the school building and LBHS, along playground, along with recommended conditions is discussed in **Section 6.3.1**.

The Department acknowledges that the site is located within the Liverpool CBD and is constrained in terms of tree planting opportunity. Therefore, a canopy cover of 40% may not be achievable on this site. However, the Department considers that there are additional opportunities to add canopy trees along the western boundary of the playground to provide shaded areas to the south, act as a line of separation and add to the canopy cover on the site, so that an overall cover of at least 30% is achieved. Conditions to this effect are recommended.

The Department has also recommended conditions in relation to street tree planting and paving on Lachlan Street, per Council's recommendations. The proposed works on Burnside Drive would be completed as agreed with NSW Health and include paved footpath, landscaped verge and street lighting.

The landscaping around the proposed pad mount substation, street lighting and street furniture are discussed in **Section 6.5**.

6.4 Open space and preschool

6.3.1 Open space

The proposed development is located on eastern portion of the existing recreation area/play space for LBHS and LGHS. The Applicant's EIS has justified that this portion of the campus, comprises additional play area and does not affect to demand for the playground for the existing high schools.

During the EIS exhibition, Council, Department and NSW Health raised concerns regarding the loss of playground space within the Liverpool CBD and the adverse impacts of the loss of open space on the development pressure within the locality.

In response, the Applicant's RtS included an 'open space calculation schedule' which demonstrates that the proposed development site does not affect to numerical compliance of the play areas of the existing schools with the EFSG requirement of 10m² per school student and 7m² per preschool student.

The allocated open space and playground areas as shown in the RtS, is provided in **Table 12** below.

Table 12 | Playground area per student including existing schools (Source: Applicant's RtS 2021)

Uses	Students	Area (m ²)	Area per student
Primary school	1200	12,000	10sqm/student
Support unit	40	400	10sqm/student
Preschool	40	285	7sqm/student
Existing high schools	2000	23,000	13sqm/student

The Applicant advised that the unencumbered play space for NLPS comprises a variety of places for active and passive play, social interaction and outdoor learning within the central courtyard as well as a large open playground to the south, sized to accommodate a full-sized soccer field.

Council supported the proposed playground and landscaped areas within NLPS but requested an ongoing collaboration with high schools and the local residents for shared/joint use of the accessible facilities within the site. The Applicant agreed to this request.

Department's assessment

The Department considers that whilst the development would result in the loss of some open space, it would not compromise the minimum play space requirements specified in the EFSG. The Department has recommended conditions of consent requiring the Applicant to consult with the existing high schools in relation to the future allocation of the outdoor play space, in particular any future upgrade or 'shared use' arrangement between the schools to ensure that adequate open space of appropriate dimensions.

6.3.2 Preschool

The south eastern portion of the ground floor of the school building is proposed to be used as a centre-based childcare (preschool) with capacity of up to 40 children aged between 3-5 years old. The preschool comprises two internal playrooms, preparation areas and staff rooms, and an outdoor play area on the southern side of the school building.

The Applicant has requested approval for the ground floor building shell and use of the shell and that part of the site as a preschool only and advised that the internal fit outs would be proposed under a separate application.

During assessment, the Department requested further clarification regarding the shell space of the preschool to assess (in concept) the compliance of the play areas with the requirements of Education SEPP. In response, the Applicant provided drawings with a concept test fit for the preschool, with dimensions of the compliant play area. The required and proposed play areas (indoor and outdoor) for the preschool are identified in **Table 13**. The concept internal layout and outdoor play areas are identified in **Figures 37** and **38**.

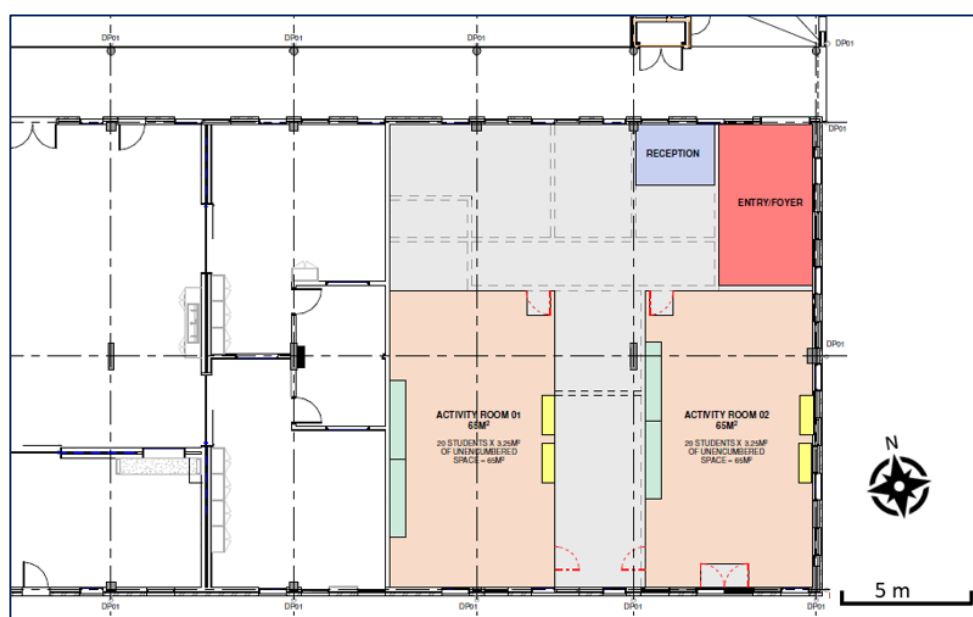


Figure 37 | Preschool internal layout play areas (Source: Applicant's SRtS 2022)

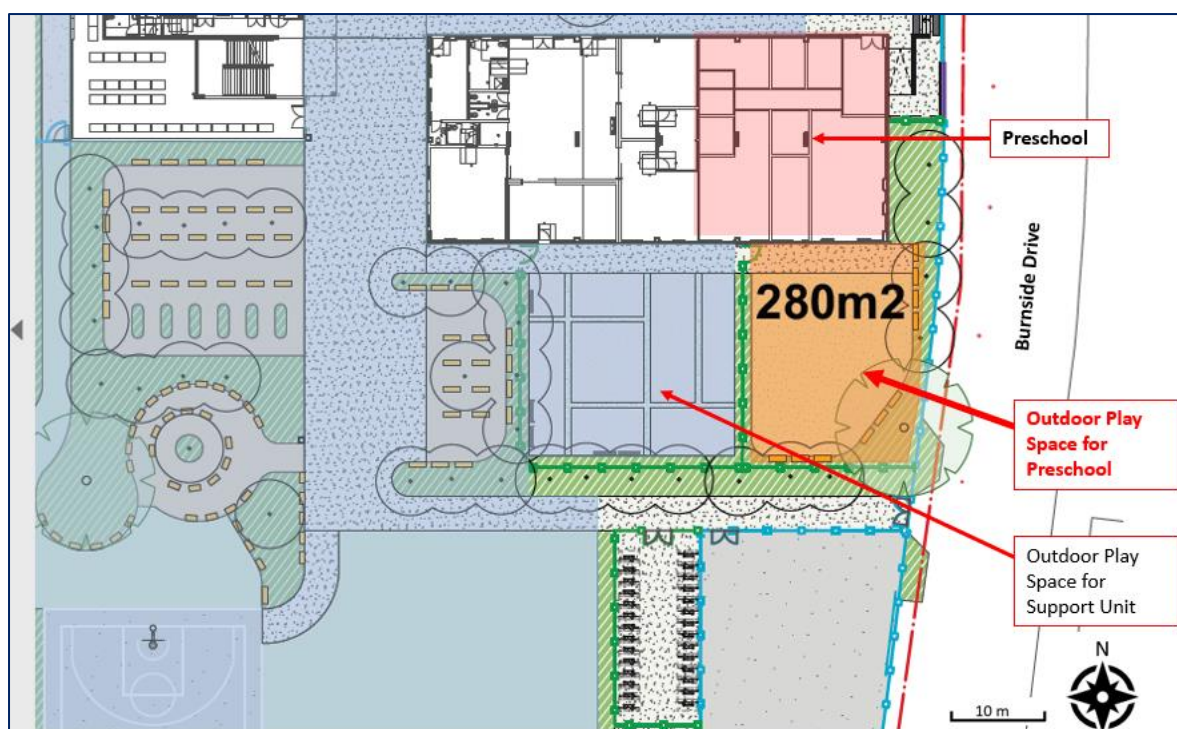


Figure 38 | Preschool outdoor play area (Source: Applicant's SRtS 2022)

Table 13 | Unencumbered play areas for the preschool

Uses	Requirement under SEPP (m ²)	Proposed development (m ²)	Compliance
Indoor Play Spaces	130	130	Complies
Outdoor Play Spaces	280	280	Complies

The Department has assessed the functionality, quality, and connection of the proposed outdoor landscaped and play spaces for the preschool and considers that it would provide adequate amenity for children and staff. The compliance of the proposal with Department's Child Care Planning Guidelines is provided in **Appendix B** and is assessed as satisfactory by the Department.

The overshadowing of the play area is discussed in **Section 6.3.3**. The Department acknowledges that the outdoor areas would receive reasonable amounts of daylight through school hours when an average for the year is accounted for and considers this to be satisfactory.

6.5 Other issues

The Department's consideration of other issues is provided at **Table 14**.

Table 14 | Department's assessment of other issues

Issue	Findings	Assessment and recommendations
Operational noise	The main sources of noise from the proposal would be from students playing outside, internal noise and mechanical plant. A Noise and Vibration Impact Assessment Report (NVIA), included with the EIS, provides an assessment of the operational noise impact on nearby residential receivers. Attended and unattended noise monitoring were undertaken to quantify the existing acoustic environment at the site and nearby sensitive receivers. Council, Sydney Trains and the Department reviewed the EIS and requested additional information regarding the impacts of rail noise on the proposed preschool, playground areas and the school buildings. The NVIA (as amended by the SRTS) considers operational noise, including from indoor and outdoor student activities, school bell, music from school events in the multi-purpose and vehicle use. The NVIA has also considered the impacts of the noise generated by the nearby rail corridor on the amenity of the school users and the air traffic noise intrusion due to the nearby helipad in association with the hospital. The NVIA includes project noise trigger levels and internal amenity criteria. Based on the existing background noise conditions, the NVIA found that acceptable noise	The Department has considered the findings of the NVIA and concludes that the proposal would not unreasonably impact on the acoustic amenity of surrounding occupants subject to the following conditions: - the recommended measures regarding mechanical plant and equipment be implemented. - the design related mitigation measures be implemented to ensure satisfactory acoustic performance of the buildings. - prior to commencement of operation, an acoustic consultant undertakes detailed assessment to demonstrate compliance of the buildings with the noise criteria identified in the NVIA. - the operational noise does not exceed the noise criteria identified in the NVIA. - the Applicant undertake short term noise monitoring within two months following commencement of use to demonstrate compliance with the established noise criteria within the NVIA. - an Out of Hours Event Management Plan be prepared for events involving over 100 patrons (for school and community use). - the multi-purpose hall be managed in accordance with the recommendations of the NVIA.

levels from operation of the school would be achieved, including from noise from outdoor play activity.

The NVIA (as updated by the SRtS) included several recommended noise performance and design related mitigation measures, as well as post operational management measures, to ensure that the amenity of the surrounding residential receivers, the adjoining schools and the NLPS users are maintained in the future.

The NVIA has considered the impacts on community use within the site in the evenings and recommended measures to reduce the noise impacts.

The NVIA also states that a minor exceedance of noise criteria is expected for a small number of eastern classrooms at LBHS. However, this exceedance is only by 2dB, which is imperceptible to the human ear, and compliance will be able to be achieved with the closure of the windows for these classrooms, in consultation with the LBHS Principal.

- consultation be undertaken with LBHS authorities to ensure appropriate noise related management measures are implemented.

Construction noise

The NVIA includes an assessment of the impacts of construction noise due to the development, on the nearby sensitive receivers in accordance with the Interim Construction Noise Guideline. The NVIA designates some residences on Lachlan Street as highly noise affected receivers.

The NVIA concludes that the noise during the construction is excepted from various vehicular and tool operation and some would exceed the established noise management levels for the site. To alleviate the adverse impacts of construction noise on the

The Department is satisfied that appropriate noise and vibration mitigation measures would be implemented to minimise impacts on nearby residents, during the construction works.

The Department has recommended conditions requiring:

- the works to be undertaken within the standard construction hours.
- implementation of respite periods as needed.
- preparation of a Construction Noise and Vibration

highly affected noise receivers including the nearby high schools and the residents on Lachlan Street, the NVIA proposes various strategies in the Construction Noise and Vibration Management Plan including use of respite periods.

The development does not propose any below ground/basement levels. Therefore, no significant noise due excavation and piling is expected.

Council advised that the Applicant should address any expected needs to undertake work outside the standard hours and implement all proposed mitigation measures to alleviate adverse noise impacts due to the construction works, including the preparation of the Construction Noise and Vibration Management Plan.

Management Plan with appropriate strategies to manage construction noise, handle compliant, liaise, and engage with the community and the nearby schools throughout the construction process.

**Site
contamination**

A Site Contamination Assessment (SCA) report was provided with the EIS. The SCA concludes that the site does not contain concentrations of heavy metals, benzene and asbestos containing materials above the relevant assessment criteria.

The SCA identified concentrations of Arsenic in one of the test pits within the designated playground area, to the south of the site. The SCA recommended further analysis of this area via a Toxicity Characteristic Leaching Procedure.

The Applicant's EIS includes a further contamination assessment of Arsenic concentration in accordance with the recommendations of the SA.

The supplementary report recommends that the Arsenic containing soil should either be disposed off site to an authorised

The Department is satisfied that the Applicant has demonstrated that the site has a low potential for contamination and that the proposed use is suitable for the site, subject to the removal of the identified Arsenic.

The Department has recommended conditions requiring:

- the engagement of a site auditor.
 - the removal of the soil containing Arsenic to an off-site authorised facility.
 - preparation of an unexpected contamination procedure.
 - a Site Audit Statement confirming the suitability of the use of the site for the purpose of a school, prior to commencement of operation.
-

facility or be relocated to a suitable location within the high school site.

Acid sulfate soil	The EIS states that the site comprises class 5 Acid Sulfate Soil. The EIS includes a Geotechnical report which does not recommend any additional actions with regard to this soil. Council or BCD have raised no concerns in this regard.	Based on the EIS and the Geotechnical report, the Department has not recommended any specific conditions with regard to management of Acid Sulfate Soils.
Stormwater	A civil works package is included in the EIS to address drainage at the site as a result of the proposed development. The EIS states that currently the drainage infrastructure within the site comprises a 225mm diameter pipe connection to Burnside Drive and a 600mm diameter pipe connection to the Liverpool hospital site. The proposal includes a concept stormwater layout proposing on-site detention systems and connections to the existing connection points within Burnside Drive and Liverpool hospital through pits and pipes. The stormwater report also proposes an overland flow path within the site to convey flows for stormwater events up to 100-year ARI. The exact location of this path is unclear, however it is proposed to be located away from the buildings. To manage the stormwater quality, the Applicant proposes various strategies including Enviropods and stormwater filters within the on-site detention tank. Additionally, a 5000L capacity rainwater tank would be installed to collect roof water and utilise the water for landscaping purposes only.	The Department has recommended conditions requiring the Applicant to submit detailed stormwater drainage plans, complying with the proposed concept layout and applicable Australian Standards and industry best practice guidelines. The conditions of consent require the Applicant to ensure that the stormwater discharge from the development and the overland flow path do not result in any additional stormwater discharge to the downstream properties, Burnside Drive and the Liverpool hospital. The Department has also reviewed the request from GANSW to increase the capacity of the rainwater tank. However, the Department considers the 5000L rainwater tank to be sufficient as the stored water cannot be reused in the toilets etc following Department of Education's policy. The Department is satisfied that subject to recommended conditions, stormwater would be appropriately managed across the site with no adverse impacts on the downstream properties or the rail corridor.

GANSW commented that the 5000L rainwater tank is not sufficient for this development and a higher capacity tank should be introduced.

Social impact and community use of land

The EIS has considered the social impacts of the proposed development.

The EIS concludes that the proposal would have substantial positive social benefits as a school is a much needed a facility in the locality facing rapid population growth.

Additionally, the multi-purpose hall and school playgrounds would be shared with the local community after hours on weekdays (between 6pm – 9pm) and on the weekends.

The Department is satisfied that the proposal would have positive social impacts as it would meet the educational needs of a growing area and would not displace any existing community facilities.

The Department supports the out of school hours use of the multi-purpose hall and playground by the community as this would result in a positive social impact.

The Department has recommended conditions that operation of the site be undertaken in accordance with the noise limits set out in the Noise and Vibration Impact Assessment and that an Out of Hours Event Management Plan be prepared to manage community use of the site.

Utilities

Electric Substation

The Applicant's EIS states that a pad mount sub-station is proposed on northern side of the site, which is adjacent to the main entrance from Lachlan street.

A 1000kVA kiosk substation would be needed to satisfy the maximum demand, which is expected to be in the order of 800-900kVA (The substation size is about 3.17m x 1.35m (approval sought under separate pathway).

Endeavour Energy recommended that the proposed future substation should comply with the Substation Design Guideline.

The Department is satisfied that the Applicant has provided adequate information with regard to the substation and other utilities.

The details of the substation would be designed in consultation with Endeavour Energy, should the application be determined by way of approval.

Council commented that the proposed location/placement of the electrical substation should be reorientated to improve the overall street amenity and be screened using metal fencing / landscaping.

GANSW recommended concealment of the booster near the main entrance to improve the amenity of the public interface.

The Department requested the Applicant to amend the architectural drawings to reflect the easement requirements provide by Endeavour Energy.

The Applicant submitted amended plans with the SRtS which showed concealment of the booster. However, the Applicant advised that no landscaping can be provided due to fire safety purposes. The Applicant also consulted further with Endeavour Energy, who then raised no further concerns with regard to the substation.

Other utilities

The EIS included an Infrastructure Management Plan to assess the existing capacity of utility services to service the site and the proposed works.

Sydney Water provided advice regarding water servicing, wastewater servicing and trade wastewater requirements.

The Department has recommended conditions to this effect.

Street furniture and lighting

The Applicant initially sought approval for street furniture on the footpath on Lachlan Street. However, this was deleted by the Applicant later in the RtS.

The Department recommended conditions requiring the Applicant to provide seating arrangements at this location, with a design alleviating security risk.

The Applicant proposes street lighting on Burnside Drive (approval sought under separate planning pathway)

SDRP commented that the street furniture outside the Lachlan Street main school entry was an important facility for parents of students and the Applicant should retain this.

The Applicant responded advising that the street furniture was removed due to security risks. GANSW reiterated that the street furniture should be retained and redesigned to mitigate the security risk.

NSW health commented that the lighting along Burnside Drive should be designed to illuminate the footpaths for the entire section, to ensure safety of people walking to and from the station after dark.

The Department has also recommended conditions requiring the provision of street lighting on Burnside Drive (in accordance with requirements of NSW Health) and Lachlan Street frontages.

School identification signs

The proposal includes the installation of two school identification sign at the main entrance to the school.

The Department is satisfied that the proposed signage would be appropriate and would not detrimentally detract from the amenity of the area.

Aboriginal Cultural Heritage

The Applicant's EIS includes an Aboriginal Cultural Heritage Assessment Report (ACHAR) which identifies that the site has a moderate potential of presence of Aboriginal archaeological relics. The ACHAR recommends test excavation to be undertaken.

The Applicant has conducted test excavations. The test excavation report concurs that there is a moderate potential of Aboriginal relics on the site.

The report recommends Aboriginal archaeological salvage in collaboration with the Registered

The Department has reviewed the ACHAR and the test excavation report.

Based on the comments from ACH, the Department supports the recommendations of the test excavation report and has recommended conditions to this effect.

Aboriginal Parties and the development of an Aboriginal Interpretation Strategy acknowledging the history of the region.

The report also acknowledges that the proposed redevelopment of the site would result in a partial loss of value for the site, but the construction is necessary to address the need for educational facilities in the area.

The report advises that the Registered Aboriginal Parties should be consulted throughout the process and in the development of the interpretation strategy for the site.

ACH have reviewed the test excavation report and have supported the Applicant's recommendations.

Historic heritage

HNSW have advised the Department that an excavation permit was approved under section 140 of the *Heritage Act 1977*, which allowed the Applicant to undertake historical archaeological testing and salvage within the site, as part of historic heritage investigations, outside the scope of the SSD application.

The permit formed part of the early works within the site preceding SSD-10391.

Noting that the testing and salvage has been undertaken by the Applicant separate to the SSD application, with the permission of HNSW, no further assessment in this regard is necessary.

The Department has recommended a condition requiring the following:

- prior to the commencement of construction, historical archaeological excavation must be undertaken by a suitably qualified and experienced professional.
 - the salvage excavation must be undertaken in accordance with the requirements of the HNSW and evidence of completion of all works and the post-excavation report must be submitted to the Certifier, prior to commencement of any construction.
 - an unexpected finds procedure must be developed as part of the construction management plan, in relation to historic heritage.
-

Sediment, erosion and dust control	A civil works package was included with the EIS and included management initiatives for sediment, erosion and dust control. Proposed measures would contain sediment within the site and prevent erosion into neighbouring properties and the public domain during construction works.	The Department considers that appropriate measures have been proposed to prevent erosion and control dust as part of construction works. The Department has recommended conditions requiring the preparation of a final detailed Construction Environmental Management Plan prior to the commencement of construction works.
Waste and recycling	The EIS included a Construction Waste Management Plan and an Operational Management Plan including details of operational waste management. The Construction Waste Management Plan includes the proposed methods for identification, temporary retention and disposal of hazardous demolition and/or construction waste. The Operational Management Plan includes expected operational waste volumes and waste management measures to be adopted. The proposal includes an on-site waste storage and collection area. Waste collection is proposed by a private contractor, five times per week.	The Department has reviewed the information provided and is satisfied that appropriate arrangements can be made to manage waste so that the proposal would not result in adverse impacts on the local environment, and to maximise opportunities to reuse and recycle materials. The Department has recommended conditions to ensure that appropriate waste handling and management arrangements are implemented during construction and operation. The Department has also recommended that service vehicles should not access the site during the school peak times to avoid conflict with the drop-off/pick-up zone.
Aviation	The EIS includes a report assessing the impacts of the proposed school on the aviation operations of the Liverpool hospital. The report concludes that the NLPS would not protrude into the aviation protected airspace (Sydney/ Bankstown Airports or the Western Sydney Airport). The NLPS mobile crane would require enhanced aviation-standard lighting obstacle lighting during periods of darkness and when the site is not	The Department considers the Applicant's assessment to be satisfactory and has recommended that the requirements be included in the Construction Environmental Management Plan for the site.

operational, unless the crane can be lowered below RL40.00 for these periods. However, it would not protrude into any protected airspace.

The report states that the mobile crane is unlikely to impact the Liverpool hospital helicopter landing site northern approach and departure path, however some additional risk management notification activities in the form of Notification to aeromedical and additional OzRunways information are recommended to ensure helicopter operators are fully apprised of the mobile crane activities during the construction phase.

Sydney trains	Sydney Trains have reviewed the proposal and recommended a number of conditions to manage the impacts of the development on the adjoining rail corridor.	The Department has included all relevant conditions in the consent to ensure that the proposal does not impact on Sydney Trains infrastructure.
Contributions	The site is located within the Liverpool CBD. The Liverpool Contributions Plan 2018 applies on this site.	Section 2.7 of the Liverpool Contributions Plan 2018 states that contributions, pursuant to section 7.11/7.12 of the EP&A Act does not apply to development for the purpose of public infrastructure provided by or on behalf of State Government or the Council. The proposed development is identified as a public infrastructure, lodged by a Government agency. Therefore the proposal is exempt from the payment of Section 7.12 and s7.11 Contributions.

7 Evaluation

The Department has reviewed the EIS, RtS, SRtS and assessed the merits of the proposal, taking into consideration advice from the Government agencies and Council.

The key issues identified with the proposal include flooding, traffic and transport, built form and urban design and open space and preschool. All environmental issues associated with the development have been addressed, and the Department concludes impacts of the development are acceptable and could be appropriately mitigated through conditions of consent.

The site is flood prone and the proposed buildings would be built below the probable maximum flood level. The Applicant has demonstrated that the risks from flooding would be appropriately addressed through the implementation a Flood Emergency Management Plan prepared in accordance with the Flood Emergency Response Report. The residual impacts in relation to flood evacuation can be managed through further consultation with State Emergency Services and the preparation of an updated emergency response plan incorporating the details of the consultation. The Department has recommended conditions to manage the construction and operational impacts on the surrounding land uses and requires mitigation measures to be implemented.

The surrounding road network and local streets could accommodate construction and operational traffic and parking demands generated by the proposal. The proposed built form is appropriate in the context of the site and would make a positive contribution to the locality. The proposed built form including a new main entrance to Lachlan Street is contextually appropriate and would not detract from the local character.

The proposed development would not negatively impact on the biodiversity values of the locality. The proposed landscaping strategy involves a net gain of 110 trees across the site which would provide additional native trees and shading of outdoor play spaces. Subject to implementation of recommended conditions, there would be a further increase in canopy cover within the site.

The development is consistent with the objects of the *Environmental Planning and Assessment Act 1979* and with the State's strategic objectives to improve education results through the provision of a new school with 1280 students that services local and state-wide demands.

The proposal is in the public interest as it would provide the following public benefits:

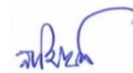
- provision of additional educational facilities to meet the needs of the existing school population as well as future increases in student enrolments to cater for population growth in the area.
- investment of \$44.5 million to deliver approximately 400 construction jobs and 98 operational jobs.
- continued use of the site by the community outside of school hours, including potential use of new buildings and sports facilities.

8 Recommendation

It is recommended that the Director, Infrastructure Assessments, as delegate of the Minister for Planning:

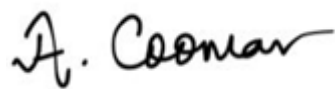
- **considers** the findings and recommendations of this report.
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant approval to the application.
- **agrees** with the key reasons for approval listed in the notice of decision.
- **approval** for the application in respect of New Liverpool Primary School (SSD-10391), subject to conditions.
- **signs** the attached development consent (**Appendix E**).

Prepared by



Nahid Mahmud
Senior Planner

Recommended by:



Aditi Coomar
Team Leader
School Infrastructure Assessment

9 Determination

The recommendation is **Adopted** by:

A handwritten signature in black ink, appearing to read 'KH', with a stylized flourish extending to the right.

19 May 2022

Karen Harragon

Director

Social and Infrastructure Assessments

Appendices

Appendix A – List of referenced documents

The following supporting documents and supporting information to this assessment report can be found on the Department of Planning and Environment's website as follows.

1. Environmental Impact Statement

<https://www.planningportal.nsw.gov.au/major-projects/project/25791>

2. Submissions

<https://www.planningportal.nsw.gov.au/major-projects/project/25791>

3. Applicant's Response to Submissions

<https://www.planningportal.nsw.gov.au/major-projects/project/25791>

4. Applicant's Supplementary Response to Submissions

<https://www.planningportal.nsw.gov.au/major-projects/project/25791>

Appendix B – Statutory Considerations

ENVIRONMENTAL PLANNING INSTRUMENTS (EPis)

To satisfy the requirements of section 4.15(a)(i) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), this report includes references to the provisions of the EPis that govern the carrying out of the project (as applicable at the time of lodgement of the application) and have been taken into consideration in the Department's environmental assessment.

Controls considered as part of the assessment of the proposal are:

- State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP).
- State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP).
- State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (Education SEPP).
- State Environmental Planning Policy No. 55 – Remediation of Land (SEPP 55).
- State Environmental Planning Policy No. 64 – Advertising Structures and Signage (SEPP 64).
- Draft State Environmental Planning Policy (Remediation of Land) (Draft Remediation SEPP).
- Draft State Environmental Planning Policy (Environment) (Draft Environment SEPP).
- Liverpool Local Environmental Plan 2008 (LLEP).

COMPLIANCE WITH CONTROLS

State Environmental Planning Policy (State and Regional Development) 2011 (SRD SEPP)

The aims of this SEPP are to identify state significant development (SSD) and state significant infrastructure and confer the necessary functions to joint regional planning panels to determine development applications.

An assessment of the development against the relevant considerations of the SRD SEPP is provided in **Table B1**.

Table B1 | SRD SEPP compliance table

Relevant Sections	Consideration and Comments	Complies
3 Aims of Policy The aims of this Policy are as follows: (a) to identify development that is State significant development	The proposed development is identified as SSD.	Yes
8 Declaration of State significant development: section 4.36 (1) Development is declared to be State significant development for the purposes of the Act if:	 The proposed development is permissible with development consent. The proposal is for a new school under clause 15(1) of Schedule 1 of the SRD SEPP, as was in force	Yes

Relevant Sections	Consideration and Comments	Complies
a) the development on the land concerned is, by the operation of an environmental planning instrument, not permissible without development consent under Part 4 of the Act, and b) the development is specified in Schedule 1 or 2.	immediately prior to the lodgement of the application.	

State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP aims to facilitate the effective delivery of infrastructure across the state by improving regulatory certainty and efficiency, identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure development, and providing for consultation with relevant Government agencies/Council about certain development during the assessment process.

Educational establishments are no longer covered under the traffic generating development provisions of the Infrastructure SEPP as they are considered under the Education SEPP. However, the application was referred to Transport for NSW (TfNSW) for review and comment.

The Department is satisfied that the proposed development meets the requirements of the Infrastructure SEPP.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017

The Education SEPP aims to simplify and standardise the approval process for childcare centres, schools, TAFEs and universities while minimising impacts on surrounding areas and improving the quality of the facilities. The Education SEPP includes planning rules for where these developments can be built, which development standards can apply and constructions requirements. The application has been assessed against the relevant provisions of the Education SEPP.

Clause 42 of the Education SEPP 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. The proposal does not exceed the building height or the floor space ratio development standards of the LLEP 2008.

Clause 57 of the Education SEPP requires traffic generating development that involve addition of 50 or more students to be referred to the Road and Maritime Services. The Application was referred to TfNSW (incorporating Road and Maritime Services) in accordance with this clause (**Section 5**).

The Education SEPP defines the preschool as a centre-based childcare facility. Clause 22 of Part 3 of the Education SEPP states that concurrence is required for a 'centre-based childcare facility' (i.e. pre-school) if:

a) the floor area of the building or place does not comply with regulation 107 (indoor unencumbered space requirements) of the Education and Care Services National Regulations, or

b) the outdoor space requirements for the building or place do not comply with regulation 108 (outdoor unencumbered space requirements) of those Regulations.

The proposal for the preschool (childcare centre) satisfies the numeric play space requirements for 40 children. Therefore, separate concurrence of the Regulatory Authority is not required (see **Section 6.4**).

Clause 35(6)(a) requires that the design quality of the development should be evaluated in accordance with the design quality principles set out in Schedule 4. An assessment of the development against the design principles of Schedule 4 and the Department's Childcare Guidelines is provided in **Table B2**.

Table B2 | Consideration of the Design Quality Principles

Matter	Consideration/Comment
Principle 1 - Context, built form and landscape	The site planning provides good aspect for the learning areas and for maximising light to play areas, where possible. The proposed buildings are within the permitted height limit for the site and much lower in height compared to the developments surrounding the site.
Principle 2 - Sustainable, efficient, and durable	The proposal includes ecologically sustainable development measures (Section 0). The materials chosen are durable and require low maintenance. Bicycle parking is provided within the site and the preliminary School Transport Plan submitted which the EIS encourages sustainable travel modes.
Principle 3 - Accessible and inclusive	The proposal has been designed to be accessible and inclusive through the provision of a lift and accessible paths of travel from the site boundaries up to and around the school buildings. The proposal incorporates wayfinding signage identifying key areas within the school assisting visitors to navigate the site. The multi-purpose hall is to be used for community activities after school and during the weekends.
Principle 4 - Health and Safety	The design of the school buildings provides a safe and secure school environment. The proposal has considered Crime Prevention Through Environmental Design principles. The proposal would clearly delineate the pedestrian entrances into the school to allow the management of visitors to the site. The residual impacts can be managed via conditions of consent.

Matter	Consideration/Comment
Principle 5 - Amenity	The proposal provides a variety of internal and external learning places for both formal and informal educational opportunities. The design of the proposed buildings seeks to maximise natural light and ventilation to the indoor areas of the school, while the landscaping and covered outdoor areas provide ample shaded areas for students and staff use.
Principle 6 - Whole of life, flexible, adaptable	The buildings would allow for long term flexibility through the provision of flexible formal and informal learning areas to adapt to future learning requirements.
Principle 7 - Aesthetics	The proposal offers an articulated and dynamic built form with clear entry points and wayfinding.

Consideration under Department's Child Care Planning Guideline

Design Principles

Context	The proposed preschool is well integrated with the school and would cater for siblings of the same family. The pre-school fits into the context.
Built form	The preschool integrates with the proposed school built form.
Adaptive learning spaces	No details have been provided. However, the concept plan shows that these spaces can be achieved within the cold shell. Conditions of consent have been recommended to this effect.
Sustainability	The unencumbered internal space provides opportunities for cross ventilation (per the concept plan).
Landscape	The landscape design for the proposed pre-school play areas are integrated into the landscaped garden settings and existing trees within the site.
Amenity	The centre has been designed to ensure suitable indoor and outdoor play spaces are provided that would have suitable access to daylight and natural ventilation.

Matter	Consideration/Comment
Safety	The design incorporates secure fence lines around the outdoor play space areas to ensure safety is maintained.

Matters for consideration

Site selection and location	The proposed pre-school forms part of the larger school development. The Applicant proposes dedicated car parking within the drop-off / pick-up zone for young children, minimising any potential safety or traffic concerns. This matter is discussed in Section 6.1. The location of the pre-school within the school would strengthen the relationship between the pre-school and school students. The site does not hold any preceding site contamination, or bushfire constraints that would unnecessarily limit the ability for a centre based childcare centre from being established. The matters in relation to flooding have been assessed and addressed in Section 6.1).
Local character, streetscape and the public domain interface	The proposed integration of the pre-school with the school would ensure it remains compatible with the character of the locality. The pre-school is located to ensure that the outdoor play areas are screened from the public domain and provides for a clear delineation between the boundaries of the school play area and that for the pre-school.
Building orientation, envelope, building design and accessibility	The Applicant has demonstrated that the design and location of the preschool play areas on the southern side of the site would not result in any adverse environmental or amenity impacts on the residents in the locality.
Landscaping	The proposed landscape design incorporates several passive and active landscape elements to help create a diverse and interesting learning environment. Appropriate fencing is proposed along the boundaries of the play area.
Visual and acoustic privacy	The predicted noise impacts associated with the operation of the preschool are generally satisfactory and would not result in adverse amenity impacts, subject to recommended conditions of consent (Section 6.5).

Matter	Consideration/Comment
	The submitted Noise Report includes various acoustic treatments for the building to ensure that the preschool children are not impact by rail noise.
Noise and air pollution	The development would not result in noise or air pollution.
Hours of operation	The proposed hours of operation would not unreasonably impact on the locality.
Traffic, parking and pedestrian circulation	The proposed preschool would not include any parking provisions (see Section 6.2).

National Regulation

Indoor space requirements	The unencumbered play areas (indoor and outdoor) comply as discussed in Section 6.4 .
Laundry and hygiene facilities	Laundry facilities are proposed to be provided on-site. Details cannot be assessed at this stage. The Department recommends a condition of consent be imposed requiring detailed drawings to be certified compliant prior to the issue of a construction certificate for the proposal.
Toilet and hygiene facilities	The Department recommends a condition of consent be imposed requiring detailed drawings to be certified compliant prior to the issue of a construction certificate for the proposal.
Ventilation and natural light	Concept Plans submitted by the Applicant demonstrate that the indoor and outdoor play areas would receive sufficient natural daylight.
Administrative space	The Department recommends a condition of consent be imposed requiring detailed drawings to be certified compliant prior to the issue of a construction certificate for the proposal.
Premises designed to facilitate supervision	The Department recommends a condition of consent be imposed requiring detailed drawings to be certified compliant prior to the issue of a construction certificate for the proposal.
Emergency and evacuation procedures	In relation to BCA matters, the Department recommends a condition of consent be imposed requiring detailed drawings to be certified compliant

Matter	Consideration/Comment
	prior to the issue of a construction certificate for the proposal. Matters relating to flood evacuation are address in Section 6.2 .
Outdoor space requirements	The proposal complies with the requirements and is reinforced through conditions of consent.
Natural environmental	The landscape design for the gardens incorporates opportunities for outdoor play that engage with the natural environment and encourage inquiry and exploration.
Shade	Details of shaded outdoor play area have not been provided. A condition of consent is recommended to facilitate this.
Fencing	The preschool would include fencing as part of the overall fencing strategy for the school.
Soil assessment	The Applicant has satisfactorily demonstrated that the site does not pose a contamination threat, subject to removal of Arsenic from the soil and submission of a Site Audit Statement in this regard.

State Environmental Planning Policy No. 55 - Remediation of Land

SEPP 55 aims to ensure that potential contamination issues are considered in the determination of a development application. The EIS includes a contamination assessment for the site which concludes assess and quantify any soil and ground water contamination and demonstrate that the site is suitable for the proposed use in accordance with SEPP 55.

The Department is satisfied that the site contamination assessment and supplementary contamination assessment report prepared by Coffey' confirms the site is capable of accommodating the proposed development. See discussions in **Section 6.5**.

State Environmental Planning Policy No. 64 – Advertising and Signage

SEPP 64 applies to all signage that under an EPI can be displayed with or without development consent and is visible from any public place or public reserve.

The proposal includes the installation of three new school identification and information signs. The proposed signs would consist of:

- front entry sign: Located on Burnside Drive, illuminated with school name and logo.
- side entry drop off signage: Located on Lachlan Street, illuminated with school name and logo.
- signage for side entry.

The EIS included an assessment of the proposed sign against the provisions of Schedule 1 of SEPP 64. The Department's assessments of the proposed sign against Schedule 1 of SEPP 64 is provided in **Table B3**.

Table B3 | SEPP 64 compliance table

Assessment Criteria	Comments	Compliance
1 Character of the area		
Is the proposal compatible with the existing or desired future character of the area or locality in which it is proposed to be located?	The proposed signs are contemporary in design, would be compatible with the existing and future character of the area.	Yes
Is the proposal consistent with a particular theme for outdoor advertising in the area or locality?	No particular themes exist for outdoor advertising in the area.	Yes
2 Special areas		
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, waterways, rural landscapes or residential areas?	The proposal does not detract from the amenity or visual quality of any special areas.	Yes
3 Views and vistas		
Does the proposal obscure or compromise important views?	No views or vistas would be impacted by the proposed signage.	Yes
Does the proposal dominate the skyline and reduce the quality of vistas?	The proposed signs would not dominate the skyline and would not impact the quality of any views or vistas.	Yes
Does the proposal respect the viewing rights of other advertisers?	Proposed signs would not impact on existing views experienced by others or existing advertising rights.	Yes

Assessment Criteria	Comments	Compliance
4 Streetscape, setting or landscape		
Is the scale, proportion and form of the proposal appropriate for the streetscape, setting or landscape?	The signs would complement the proposed design and contribute to the visual interest of the streetscape.	Yes
Does the proposal contribute to the visual interest of the streetscape, setting or landscape?	The proposed scale and design of the signs is appropriate for the streetscape and setting within which it is proposed.	Yes
Does the proposal reduce clutter by rationalising and simplifying existing advertising?	The signs are simple in design and would not result in visual clutter.	Yes
Does the proposal screen unsightliness?	Not applicable.	N/A
Does the proposal protrude above buildings, structures or tree canopies in the area or locality?	The signs would sit well below the height of proposed adjoining buildings and trees.	Yes
Does the proposal require ongoing vegetation management?	No vegetation management is required by the proposed signs.	Yes
5 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?	The signs are of appropriate scale and proportion and are considered relatively understated in the context of the site.	Yes
Does the proposal respect important features of the site or building, or both?	The signs are appropriately located at the site entrance and would not impact on any other important features of the site.	Yes

Assessment Criteria	Comments	Compliance
6 Associated devices and logos with advertisements and advertising structures		
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?	Safety devices are not necessary for the proposed design of the sign/s.	Yes
7 Illumination		
Would illumination result in unacceptable glare?	The proposed signs would be internally illuminated / up-lit. The lighting would be directed to ensure there will be no adverse impacts on the nearby development.	Yes
Would illumination affect safety for pedestrians, vehicles or aircraft?	No.	Yes
Would illumination detract from the amenity of any residence or other form of accommodation?	No.	Yes
Can the intensity of the illumination be adjusted, if necessary?	Not applicable.	N/A
Is the illumination subject to a curfew?	Not applicable.	N/A
8 Safety		
Would the proposal reduce safety for pedestrians, particularly children, by obscuring sightlines from public areas?	No. Extensive views of the footpath and entrance area would still be available.	Yes
Would the proposal reduce safety for any public road?	The design and location of the proposed signage would not impact on safety of any public road.	Yes

Draft State Environmental Planning Policy (Remediation of Land)

The Draft Remediation SEPP will retain the overarching objective of SEPP 55 promoting the remediation of contaminated land to reduce the risk of potential harm to human health or the environment.

Additionally, the provisions of the Draft Remediation SEPP require all remediation work carried out without development consent to be reviewed and certified by a certified contaminated land consultant. Remediation work is to be categorised based on the scale, risk and complexity of the work. Environmental management plans relating to post-remediation management of sites, including the ongoing operation, maintenance and management of on-site remediation measures (such as a containment cell) are to be provided to Council.

The Department is satisfied that the proposal will be consistent with the objectives of the Draft Remediation SEPP.

Draft State Environmental Planning Policy (Environment)

The Draft Environment SEPP is a consolidated SEPP which proposes to simplify the planning rules for a number of water catchments, waterways, urban bushland, and Willandra Lakes World Heritage Property. Once adopted, the Draft Environment SEPP will replace seven existing SEPPs. The proposed SEPP will provide a consistent level of environmental protection to that which is currently delivered under the existing SEPPs. Where existing provisions are outdated, no longer relevant or duplicated by other parts of the planning system, they will be repealed.

Given that the proposal is consistent with the provisions of the existing SEPPs that are applicable, the Department concludes that the proposed development will generally be consistent with the provisions of the Draft Environment SEPP.

Liverpool Local Environmental Plan 2008 (LLEP)

The LLEP aims to encourage the development of housing, employment, infrastructure and community services to meet the needs of the existing and future residents of the Liverpool City Council local government area. The LLEP also aims to conserve and protect natural resources and foster economic, environmental and social well-being. The Department has consulted with Council throughout the assessment process and has considered all relevant provisions of the LLEP and those matters raised by Council in its assessment of the development (see **Section 5**).

The Department concludes the development is consistent with the relevant provisions of the LLEP. Consideration of the relevant clauses of the LLEP is provided in **Table B4**.

Table B4 | Consideration of the LLEP 2008

LLEP 2008	Department Comment/Assessment
Land Use Table – Zone SP2 Health Services Facility and Educational Establishment	Primary schools are permissible with consent in the SP2 Health Services Facility and Educational Establishment zone.

LLEP 2008	Department Comment/Assessment
	The proposed development meets the objectives of the zone as SP2.
Clause 4.3 Building height	The maximum building height on the site is permitted 34m. The proposed maximum building height is 14.8m. The proposed development complies with the height control.
Clause 4.4 Floor Space Ratio	The maximum Floor Space Ratio on the site is 2.5:1. The proposed development will result in the site having an overall FSR 0.35:1. The proposed development complies with this requirement.
Clause 5.10 Heritage conservation	The site is not identified as an item of heritage significance and is not located in any conservation area.
Clause 7.7-Acid Sulfate Soils	The site is identified as being located on land with class 5 acid sulfate soils. No further action in this regard is required (Section 6.5).
Clause 7.8-Flood Planning	The site is identified as a flood planning area. The matter is discussed in Section 6.1 .

Other policies

In accordance with clause 11 of the SRD SEPP, Development Control Plans (DCPs) do not apply to state significant development. Notwithstanding this, the objectives of the relevant controls under the LDCP 2008, where relevant, have been considered.

Appendix C – Independent Flood Report

Appendix D – Community views in the draft Notice of Decision

Issue	Consideration
<i>Flooding</i>	<i>Assessment</i>
- The ground floor level is set at 9.3m AHD, which is lower than the Georges River Probable Maximum Flood (PMF) level for the site and is not acceptable. - The proposal is not acceptable in its current form as it is proposed to be constructed below the PMF applicable to the site.	- The Applicant responded to Council's concerns and indicated that whilst the ground level of the proposed development would be located below the Georges River PMF event, it would be constructed above the Liverpool Central Business District PMF. As such, there would be sufficient time to evacuate students and other users from the site during the Georges River PMF event. - Consequently, the Applicant suggested that the proposed development is possible in its current form, subject to the implementation of a detailed Flood Evacuation Response Plan (FERP). - The application includes a FERP, which concludes that during the worst case PMF events a shelter-in-place strategy would be implemented with the students accommodated within the shared school hall at the Liverpool Boys/Girls High School sites. - The Department has reviewed the submitted documents and engaged with Biodiversity and Conservation Division (BCD) and State Emergency Service (SES) in this regard. - SES and BCD have recommended that shelter-in-place is not suitable for the site and should be replaced by closure of the school in the first instance well ahead of the flood so that evacuation during the school day is not relied upon. - SES have provided recommendations regarding alternate evacuation routes and collection points outside the site. - Based on the consultation and comments from Government agencies, the Department considers that the proposed finished ground floor level of the buildings can be supported on this site subject to the implementation of a detailed Flood Emergency Management Plan (FEMP) prepared in consultation with Council and SES.

Conditions

- Conditions include:
 - consultation with SES prior to and during the construction period to prepare the FEMP.
 - preparation of traffic modelling considering the various roads around the site, the level of inundation on these roads and the adequate evacuation routes for students/parents as well as the impacts of the evacuation on local traffic.
 - consultation with relevant Government agencies and Council regarding early warning systems to ensure appropriate flood monitoring in the future.
 - preparation of a final FEMP prior to the commencement of operation of the school to:
 - include details of the early flood warning systems to be relied upon to ensure that the school can be closed well in advance of PMF event, so that the school does not open on days of escalated PMF risk.

	– provide details of evacuation of the users of the site eliminating any need for shelter-in-place. – include recommendations of SES regarding evacuation. – provide details of impacts of evacuation on the surrounding traffic network, associated management measures for parents collecting students etc. – identify the emergency student collection points, inundated roads and alternate traffic routes for evacuating.
<i>Open space</i>	<i>Assessment</i>
• The proposal would result in a reduction of open space within the site. • The Applicant should outline the allocation of open space for each school in accordance with the Department of Education's requirements. • The Applicant should consult with the key stakeholders to ensure open spaces are shared with the community. • The basketball court should be upgraded to a multipurpose court.	• The Department considers that the development would result in the loss of some open space, however it would not compromise the minimum play space requirements specified by the Department of Education. • The Applicant has also agreed for shared use of open space with the community and other high schools.
	<i>Conditions</i>
	• Conditions include: ◦ consultation with the existing high schools in relation to the future allocation of the outdoor play space. ◦ provision of 'shared use' arrangement between the schools. ◦ provision of community use of open space and other school facilities.
<i>Roof form</i>	<i>Assessment</i>
• The roof form should be redesigned with large extended eaves so that shading can be provided.	• The Applicant's RtS provided amended drawings with a 500mm deep vertical and horizontal sunshades to the Western façade. • The Department is satisfied with the design in its current form. • No additional conditions are recommended.
<i>Cycling infrastructure</i>	<i>Assessment</i>
• Additional cycling infrastructure should be provided to facilitate the school.	• The proposal would provide a bicycle parking area with 60 bicycle spaces along with end-of-trip facilities. • The Applicant has advised that the remaining facilities and improvements to the cycling infrastructure are proposed to be delivered over a 2 to 5-year horizon in collaboration with other agencies, consistent with the Liverpool Bike Plan.
	<i>Conditions</i>
	• Conditions include: ◦ requirement to update the Department on the delivery of the future cycling infrastructure in the 2 – 5 horizon, post operation of the school.
<i>Noise</i>	<i>Assessment</i>
• The noise assessment should include assessment of noise impact for uses	• The Department has considered the findings of the Applicant's assessment and concludes that the proposal

outside of school hours and include noise control measures such as minimising vehicle alarms, high noise generating plants.

would not unreasonably impact on the acoustic amenity of surrounding occupants.

Conditions

- Conditions include:
 - preparation of a Construction noise and Vibration Management Plan to manage adverse impacts of construction works.
 - implementation of measures in the building to ensure that the Project Noise Trigger Levels are maintained at the nearby sensitive users.
 - preparation of an Out of Hours Event Management Plan both for the school and community use.
 - management of the multi-purpose hall and the site, including consultation with adjoining site, in accordance with the recommendations of the Applicant's Noise report.

School canteen

Assessment

- The school canteen includes kitchen facilities along with details of the fit outs if included.

- The Department has recommended conditions in this regard.

Conditions

- Conditions include:
 - installation of a grease trap in accordance with relevant requirements.

Appendix E – Recommended Instrument of Consent/Approval